WH3080 EEPROM 数据格式定义

1、History Data is saved at the address between 00100H and 00FFFFH for total of 3264 sets of records. If I2C bus is busy during data transfer, wait until the bus is free.

2、One set history data take 20bytes of EEPROM space, and it is organized as follow:

Sampling time --- the time interval between two data sets in minutes

IN RH --- HEX value，one byte in the range of 1%~99%.if not valid，0FFH will be saved instead；

IN T --- HEX value，two bytes（-40.0℃~60.0℃），FFFFH will be used when not valid data available，bit7 of the MSB is sign bit:0 –positive sign，1 –negative sign.

OUT RH --- HEX value, one byte for range 1% - 99%. If not valid data available, save 0FFH instead.

OUT T --- HEX value，two bytes（-40.0℃~60.0℃），FFFFH will be used when not valid data available，bit7 of the MSB is sign bit:0 –positive sign，1 –negative sign.

Absolute Pressure --- HEX value, two bytes for the range of 300.0 – 1080.0 Hpa. If not valid data, save FFFFH instead.

Average Wind Speed Low Byte Value --- HEX value, one and half byte for range of 0-50.0m/s. If no valid data available, FFH will be saved instead.

Gust Wind Speed Low Byte Value --- HEX value, one and half byte for range of 0-50.0m/s. If no valid data available, FFH will be saved instead.

Average and Gust High Nibble Value --- the high nibble is for gust wind speed, the low nibble is for average wind speed.

remark: the above saved value is from the wind speed transducer counter value.

Wind Direction --- HEX value, one byte. 0 for N, 4 for E , 8 for S, 12 for W. bit 7 set to one for not valid wind direction.

Total Rain --- HEX value, two bytes. Current rain counter value.

remark: the above saved value is from the rain transducer counter value.

Status byte --- HEX value, one byte.

Bit6 =0 rain counter value is valid, =1 rain counter value is not valid.

Bit7 =0 no overflow rain counter value happened. =1 for rain counter value overflow happened.。

LUX --- HEX value,3 bytes(0 lx~400000 lx).Current luminometer value.

UV --- HEX value,1 byte（0~15）. Current ultraviolet value

00100H TO 00FFFFH for total of 3264 sets of records

Item	Byte	Unit	DATA FORMAT	Range		Remark
				Min	Max	
Sample time	1 Byte	minute	HEX	1	240	Sampling interval time
RH- IN	1 Byte	1%	HEX	1	99	Single byte
T- IN	2 Bytes	0.1 ℃	HEX	-400	600	LSB
						MSB
RH- OUT	1 Byte	1%	HEX	1	99	Single byte
T- OUT	2 Bytes	0.1 ℃	HEX	-400	600	LSB

						MSB
ABS P	2 Bytes	0.1 Hpa	HEX	920	1080	LSB
						MSB
AVG. WSP	1 Byte	0.1 m/s	HEX	0	500	LSB
GUST WSP	1 Byte	0.1 m/s	HEX	0	500	LSB
WSP High Nibble	1 Byte		HEX	0	1	MSN
Wind Direction	1 Byte	NA	HEX	0	15	Single byte
Total Rain	2 Bytes	Hz	HEX	0	65535	LSB
						MSB
STATUS	1 Byte					bit0
						bit1
						bit2
						bit3
						bit4
						bit5
		Valid data flag				bit6=1：no sensor data received
		Rain fall overflow flag				bit7=1：overflow happened
LUX	3 Bytes	0.1lx	HEX	0	4000000	L
						M
						H
UV	1 Byte		HEX	0	15	

*: wind direction: =0x80 for invalid wind direction, =0 for N, =1 for NNE, =2 for NEE,=3 for E, =4 for EES……

00000H~00100H DATA DEFINITION；

address	remark	unit	Data format	operation	Value
00000H	EEPROM initialized flag byte1		HEX	W/R	55H
00001H	EEPROM initialized flag byte2		HEX	W/R	AAH
00002H	RAIN_FACL		HEX	R	(rain factor)*8192
00003H	RAIN_FACH		HEX	R	
00004H	WIND_FACL		HEX	R	(wind factor)*8192
00005H	WIND_FACH		HEX	R	

Address	Description	Unit	Format	W/R	Notes
00006H	Time stamp for max UV T		BCD	W/R	Year
00007H					Month
00008H					Date
00009H					Hour
0000AH					Minute
0000BH	Time stamp for max LUX T		BCD	W/R	Year
0000CH					Month
0000DH					Date
0000EH					Hour
0000FH					Minute
00010H	Current sampling time interval	Minute	HEX	W/R	For the range of 1-240 minutes
00011H	Current unit setting flag 1		HEX	W/R	bit0: IN T 0 - ℃， 1 - ℉
					bit1:OUT T0 - ℃， 1 - ℉
					bit2:Rain fall 0 - mm,1 - Inch
					bit5:Pressure Unit 1 - Hpa
					bit6:Pressure Unit 1 - inHg
					bit7:Pressure Unit 1 - mmHg
00012H	Current Unit setting flag byte 2		HEX	W/R	bit0: wind speed 1 - m/s
					bit1:wind speed 1 - km/h
					bit2:wind speed 1 - knot
					bit3: wind speed 1 - m/h
					bit4: wind speed 1 - bft
00013H	Display Format flag byte 1		HEX	W/R	bit0: 0 – ABS P,1 – REL P
					bit1:0 – AVG WSP,1 – GUST WSP
					bit2:0 – 24H Time ,1 – 12H
					bit3: 0 - DD_MM_YY,1 - MM_DD_YY
					bit4: 0 – 12H time scale, 1 – 24H time scale
					bit5: date flag 1 – complete date
					bit6: date flag 1 – date and wk date
					bit7: date flag 1 – alarm time
00014H	Display Format Flag Byte 2		HEX	W/R	bit0:outdoor flag - temperature
					bit1: outdoor flag for windchill
					bit2:outdoor flag for dew point

				bit3:rain fall flag for 1h
				bit4:rain fall flag for 24H
				bit5:rainfall flag for week
				bit6:rainfall flag for month
				bit7:rainfall flag for total
				bit1:time alarm
				bit2:wind direction alarm
00015H	Alarm Enable Flag Byte1	HEX	W/R	
				bit4:in RH low
				bit5:in RH high
				bit6:OUT RH low
				bit7:OUT RH high
				bit0:AVG WSP
				bit1:GUST WSP
				bit2:1h rainfall
00016H	Alarm Enable Flag byte2	HEX	W/R	bit3:24h rainfall
				bit4:ABS P low
				bit5:ABS P High
				bit6:REL P low
				bit7:REL P high
				bit0: IN T low
				bit1:IN T high
				bit2:OUT T low
00017H	Alarm Enable Flag byte3	HEX	W/R	bit3:OUT T High
				bit4:Windchill Low
				bit5:Windchill High
				bit6:DewPoint low
				bit7:DewPoint High
00018H	Timezone	HEX	W/R	bit7:sign bit
00019H				
0001AH	DATA refreshed	HEX	W	PC write AA indicating setting changed, base unit clear this byte for reading back the change
0001BH	History data sets	HEX	W/R	LSB
0001CH				MSB
0001DH	LUX UV Flags	HEX	W/R	Bit1:lux high alarm Bit2:UV high alarm

address	item	unit	Data format	Operation	Remark	
					Bit5,Bit0 =00 - lux	
					=01 – fc	
					=10 – W/M2	
0001EH	History data stack address(starting address)		HEX	W/R		LSB
0001FH						MSB
0020H	Relative P value	Hpa	HEX	R		LSB
0021H						MSB
0022H	Absolute P value	Hpa	HEX	R		LSB
0023H						MSB
0024H	Lux to w/m2 coefficient		HEX	W/R	*10	
0025H						

Alarm Setting Value saved at 00030H~00058H

address	item	unit	Data format	Operation	Remark
0030H	In RH high	%	HEX	W/R	
0031H	In RH low	%	HEX	W/R	
0032H	In T high	℃	HEX	W/R	LSB
0033H					MSB(bit7 sign bit)
0034H	IN T low	℃	HEX	W/R	LSB
0035H					MSB(bit7 sign bit)
0036H	OUT RH high	%	HEX	W/R	
0037H	OUT RH low	%	HEX	W/R	
0038H	OUT T high	℃	HEX	W/R	LSB
0039H					MSB(bit7 sign bit)
003AH	OUT T low	℃	HEX	W/R	LSB
003BH					MSB(bit7 sign bit)
003CH	Wind chill High	℃	HEX	W/R	LSB
003DH					MSB(bit7 sign bit)
003EH	Wind chill Low	℃	HEX	W/R	LSB
003FH					MSB(bit7 sign bit)
0040H	DEW Point High	℃	HEX	W/R	LSB
0041H					MSB(bit7 sign bit)
0042H	DEW Point Low	℃	HEX	W/R	LSB
0043H					MSB(bit7 sign bit)
0044H	ABS P High	Hpa	HEX	W/R	LSB
0045H					MSB
0046H	ABS P Low	Hpa	HEX	W/R	LSB
0047H					MSB

0048H	REL P high	Hpa	HEX	W/R	LSB
0049H					MSB
004AH	REL P low	Hpa	HEX	W/R	LSB
004BH					MSB
004CH	AVG BFT High	bft	HEX	W/R	
004DH	AVG WSP high	m/s	HEX	W/R	LSB
004EH					MSB
004FH	GUST BFT High	bft	HEX	W/R	
0050H	GUST WSP high	m/s	HEX	W/R	LSB
0051H					MSB
0052H	Wind Direction ALM				
0053H	1H rainfall high	mm	HEX	W/R	LSB
0054H					MSB
0055H	24H rainfall high	mm	HEX	W/R	LSB
0056H					MSB
0057H	Time alarm Hour	hour	BCD	W/R	
0058H	Time alarm Minute	minute	BCD	W/R	
0059H	LUX H ALM	0.1lux	HEX	W/R	L
005AH					M
005BH					H
005CH	UV H ALM		HEX	W/R	
005DH	UV Max Value		HEX	W/R	
005EH	LUX Max value	0.1lux	HEX	W/R	L
005FH					M
0060H					H
0061H					

Min Max value saved at 00062H~000FFH 的 EEPROM

0062H	IN RH max	%	HEX	W/R	
0063H	IN RH min	%	HEX	W/R	
0064H	OUT RH max	%	HEX	W/R	
0065H	OUT RH min	%	HEX	W/R	
0066H	IN T max	℃	HEX	W/R	LSB
0067H					bit7 sign flag, MSB
0068H	IN T min	℃	HEX	W/R	LSB
0069H					bit7 sign flag, MSB
006AH	OUT Max	℃	HEX	W/R	LSB
006BH					bit7 sign flag, MSB
006CH	OUT min	℃	HEX	W/R	LSB
006DH					bit7 sign flag, MSB

006EH	Windchill max	℃	HEX	W/R	LSB
006FH					bit7 sign flag, MSB
0070H	Windchill min	℃	HEX	W/R	LSB
0071H					bit7 sign flag, MSB
0072H	Dewpoint max	℃	HEX	W/R	LSB
0073H					bit7 sign flag, MSB
0074H	Dewpoint min	℃	HEX	W/R	LSB
0075H					bit7 sign flag, MSB
0076H	Abs P max	Hpa	HEX	W/R	LSB
0077H					MSB
0078H	Abs P min	Hpa	HEX	W/R	LSB
0079H					MSB
007AH	REL P max	Hpa	HEX	W/R	LSB
007BH					MSB
007CH	REL P min	Hpa	HEX	W/R	LSB
007DH					MSB
007EH	AVG WSP max	m/s	HEX	W/R	LSB
007FH					MSB
0080H	GUST WSP max	m/s	HEX	W/R	LSB
0081H					MSB
0082H	1h rainfall max	mm	HEX	W/R	LSB
0083H					MSB
0084H	24h rainfall max	mm	HEX	W/R	LSB
0085H					MSB
0086H	Wk rainfall max	mm	HEX	W/R	LSB
0087H					MSB
0088H	Month rainfall max	mm	HEX	W/R	LSB
0089H					MSB
008AH	Total rainfall max	mm	HEX	W/R	LSB
008BH					MSB
008CH	Highest nibble for month and total rainfall	mm	HEX	W/R	high nibble:month rainfall, low nibble:total rainfall
008DH	Time stamp for max in RH		BCD	W/R	Year
008EH			BCD		Month
008FH			BCD		Date
0090H			BCD		Hour
0091H			BCD		Minute
0092H	Time stamp for min in RH		BCD	W/R	Year
0093H			BCD		Month
0094H			BCD		Date

0095H			BCD		Hour
0096H			BCD		Minute
0097H	Time stamp for max out RH		BCD	W/R	Year
0098H			BCD		Month
0099H			BCD		Date
009AH			BCD		Hour
009BH			BCD		Minute
009CH	Time stamp for min out RH		BCD	W/R	Year
009DH			BCD		Month
009EH			BCD		Date
009FH			BCD		Hour
00A0H			BCD		Minute
00A1H	Time stamp for max in T		BCD	W/R	Year
00A2H			BCD		Month
00A3H			BCD		Date
00A4H			BCD		Hour
00A5H			BCD		Minute
00A6H	Time stamp for min in T		BCD	W/R	Year
00A7H			BCD		Month
00A8H			BCD		Date
00A9H			BCD		Hour
00AAH			BCD		Minute
00ABH	Time stamp for max OUT T		BCD	W/R	Year
00ACH			BCD		Month
00ADH			BCD		Date
00AEH			BCD		Hour
00AFH			BCD		Minute
00B0H	Time stamp for min OUT T		BCD	W/R	Year
00B1H			BCD		Month
00B2H			BCD		Date
00B3H			BCD		Hour
00B4H			BCD		Minute
00B5H	Time stamp for wind chill max		BCD	W/R	Year
00B6H			BCD		Month
00B7H			BCD		Date
00B8H			BCD		Hour
00B9H			BCD		Minute
00BAH	Time stamp for wind chill min		BCD	W/R	Year
00BBH			BCD		Month
00BCH			BCD		Date
00BDH			BCD		Hour

00BEH			BCD		Minute
00BFH			BCD		Year
00C0H			BCD		Month
00C1H	Time stamp for dew point max		BCD	W/R	Date
00C2H			BCD		Hour
00C3H			BCD		Minute
00C4H			BCD		Year
00C5H			BCD		Month
00C6H	Time stamp for dew point min		BCD	W/R	Date
00C7H			BCD		Hour
00C8H			BCD		Minute
00C9H			BCD		Year
00CAH			BCD		Month
00CBH	Time stamp for ABS P max		BCD	W/R	Date
00CCH			BCD		Hour
00CDH			BCD		Minute
00CEH			BCD		Year
00CFH			BCD		Month
00D0H	Time stamp for ABS P min		BCD	W/R	Date
00D1H			BCD		Hour
00D2H			BCD		Minute
00D3H			BCD		Year
00D4H			BCD		Month
00D5H	Time stamp for REL P max		BCD	W/R	Date
00D6H			BCD		Hour
00D7H			BCD		Minute
00D8H			BCD		Year
00D9H			BCD		Month
00DAH	Time stamp for REL P min		BCD	W/R	Date
00DBH			BCD		Hour
00DCH			BCD		Minute
00DDH			BCD		Year
00DEH			BCD		Month
00DFH	Time stamp for AVG WSP max		BCD	W/R	Date
00E0H			BCD		Hour
00E1H			BCD		Minute
00E2H			BCD		Year
00E3H			BCD		Month
00E4H	Time stamp for GUST WSP max		BCD	W/R	Date
00E5H			BCD		Hour
00E6H			BCD		Minute

00E7H		BCD		Year
00E8H		BCD		Month
00E9H	Time stamp for 1h rainfall max	BCD	W/R	Date
00EAH		BCD		Hour
00EBH		BCD		Minute
00ECH		BCD		Year
00EDH		BCD		Month
00EEH	Time stamp for 24h rainfall max	BCD	W/R	Date
00EFH		BCD		Hour
00F0H		BCD		Minute
00F1H		BCD		Year
00F2H		BCD		Month
00F3H	Time stamp for wk rainfall max	BCD	W/R	Date
00F4H		BCD		Hour
00F5H		BCD		Minute
00F6H		BCD		Year
00F7H		BCD		Month
00F8H	Time stamp for month rainfall max	BCD	W/R	Date
00F9H		BCD		Hour
00FAH		BCD		Minute
00FBH		BCD		Year
00FCH		BCD		Month
00FDH	Time stamp for total rainfall max	BCD	W/R	Date
00FEH		BCD		Hour
00FFH		BCD		Minute