Ref: FAQ-0002
Title – Reading Temp/RH data for Type 83 Tx
Made By: KE_261113 (Issue 4)

Question –

Regarding the data format for a Type 83 sensor:

How can the data from this transmitter be interpreted?

Type	----Transmitter ID------			Status	----Humidity----		Temperature	-----	CRC-----	
$83	$00	$11	$66	$01	$05	$44	$17	$A9	$FB	$5A
$93	$00	$11	$64	$01	$04	$AC	$18	$C5	$7E	$AD

Answer –

1. Two Fields are transmitted, one for each Humidity and Temperature channel.

The fields consist of 4 HEX digits (16 bits), which can be used to derive Temperature and Humidity values.

a.) Temperature (Raw_Temp values in DEC)

Temperature (T) (deg C) = -39.7 + (0.01 * Raw_Temp) + (-0.00000002) * ((Raw_Temp - 7000) ^ 2)

b.) Humidity (%RH_Raw values in DEC)

%RH_lin =(-0.0000028 * (%RH_Raw ^2)) +(0.0405 * %RH_Raw) – 4

%RH = (T-25) * (0.01 + (0.00008 * %RH_Raw)) + %RH_lin

(%RH is compensated for Temperature)

2. The Status field is made up of 2 HEX digits (8 bits) – each Bit represents the following;

Status Bits

7 – Set for low battery
6 – not used
5 – not used
4 – not used
3…0 – Firmware version

00 – would mean “Battery OK” : Firmware version= 0
02 – would mean “Battery OK” : Firmware version = 2
83 – would mean “Battery Low” : Firmware version = 03

Document History:

Edition	Date of Issue	Modification	Notes
1st	9th July 2013	1st Release	n/a
2nd	5th Aug 2013	Add %RH temp compensation	Taken from sensor data sheet
3rd	14th Oct 2013	20.27 → 20.57 (Typo)	Correct Typo
4th	26th Nov 2013	Revise %RH Formula for Temp Compensation	Additional detail to basic manual formula

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