Ref: FAQ-0002
Title – Reading Temp/RH data for Type 83 Tx
Made By: KE_090713

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 Humidity Field consists of 4 HEX digits (16 bits), which indicate the following humidity range;

Using the example data above;

Humidity (%) = $[-0.0000028 \times \text{Measured})^2] + [\text{Measured} \times 0.0405] - 4$

Humidity (measured) = 0544($HEX) = 1348(DEC)

Humidity(%) = [-0.0000028 x 1348 x 1348] + [1348 x 0.0405] – 4
= -5.08789 + 54.594 – 4
= 45.50%

Temperature (measured) = 17A9($HEX) = 6057(DEC)

Temperature (deg C) = [6057 x 0.01] -40
= 20.27 deg C

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

Halma Water Management, Ty Coch House, Llantarnam Park Way, Cwmbran, Gwent. NP44 3AW.
www.hwm-water.com; Tel: +44 (0) 1633 489479; Fax: +44 (0) 1633 877857