Engineering Note

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Title:	Hydro-View 4-20mA output scaling difficulties
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Summary:	The 4-20mA output on the Hydro-View does not operate in strict accordance with the User Guide. This document explains a work-around.

Introduction

The analogue output of the Hydro-View unit may be configured for 4-20mA use by moving a link inside the unit. This procedure is explained in the Installation section of the Hydro-View User Guide.

A design change made necessary by component shortages has resulted in the working range of this current output not corresponding to the 0-10V voltage output, such that the *Maximum %* parameter in the *Analogue Output Set-up Menu* does not correspond to 20mA. The voltage output is unaffected by this problem.

Remedial action

If you wish to use the current output, then it is possible to determine if your unit is affected by this problem by using the *Calibrate* facility on the *Analogue Output Set-up Menu* as follows…

1. Configure the output for current as described in the User Guide.
2. Set the *output variable* to *Calibrate*
3. Set the *Calibrate %* value to the midpoint value between the *Minimum %* and *Maximum %.*
4. Measure the current at the output terminals 6 & 7 using a milliammeter.

This should read very close to 12mA. If the reading is close to 20mA, then the working range is incorrect and the following procedure must be adopted.

1. Set the *Minimum %* parameter to the moisture value you wish to correspond to 4mA as normal.
2. Set the *Maximum %* parameter to a value given by…

(Maximum working value - *Minimum %*) * 2 + *Minimum %*

…where the Maximum working value is that which you wish to correspond to a 20mA output.

Examples:

For a working range 0% - 20%,

Minimum % = 0
*Maximum % = (20 - 0) * 2 + 0 = 40*

For a working range 10% to 20%,

Minimum % = 10
*Maximum % = (20 - 10) * 2 + 10 = 30*

This error will be corrected in future production and/or system firmware.