

Ensign - A Synergy add on

An insight into the future condition of artefacts

Using environmental data capture and analysis, the Ensign software ultimately assists conservators with predicting the potential damage that can occur by keeping items in their current environments over long periods of time.

Data is evaluated using either quick, visual reporting (plan views and traffic light) OR comprehensive diagnostic assessments such as mould germination.

HANWELL
Ensign



Colour coded maps show accumulated exposure time for quick visual identification of problem areas.



- Developed under a knowledge Transfer Partnership in association with the National Archives
- Simply add Ensign onto existing Synergy software
- Output is commonly acceptable as part of contractual reporting requirements
- Offers a range of report complexity levels (from novice to expert)
- Easy interpretation of data and evaluation of environmental effects to materials
- Enables multiple data input for comprehensive analysis
- Improved preservation using controlled environmental surroundings

Quick visual reporting tools



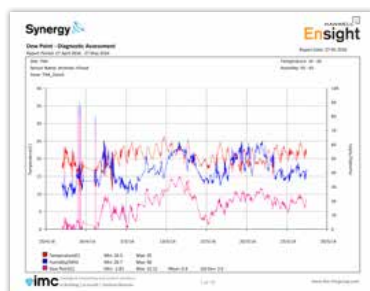
Plan view

Date	Room	Relative Humidity	Absolute Humidity	Standard Deviation
10/10/14	Room 1	75%	10.5g/m³	0.5
10/10/14	Room 2	70%	9.5g/m³	0.5
10/10/14	Room 3	65%	8.5g/m³	0.5
10/10/14	Room 4	60%	7.5g/m³	0.5
10/10/14	Room 5	55%	6.5g/m³	0.5

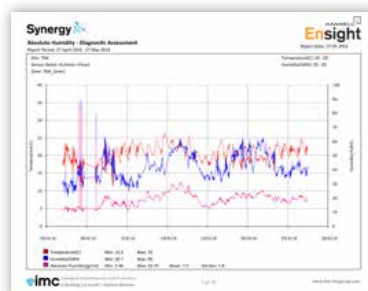
Traffic Light

Traffic Light
Simple traffic light system reports provide immediate visual indication of environments breaching preset temperature boundaries.

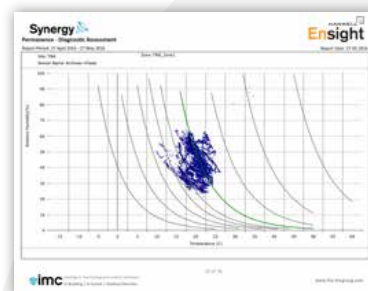
Comprehensive reporting tools



Dew point



Absolute Humidity



Permanence



RoHS

Standard System Calculations

Basic Calculations:

Find out the maximum, minimum, average and standard deviation for each sensor selected for a user defined time period. Select a maximum and a minimum value to create a desirable range and get an indication of whether the selected data fall within the range. Scatter graph and colour coded maps can be generated for diagnostic level analysis of data.

Absolute Humidity:

Convert RH and T data to Absolute Humidity for each sensor selected for a user defined time period. Outputs include maximum, minimum, average and standard deviation for each sensor selected. Use the report to compare indoors and outdoors absolute humidity to identify possible moisture ingress into the monitoring space.

Dew Point:

Convert RH and T data to Dew Point for each sensor selected for a user defined time period. Outputs include maximum, minimum, average and standard deviation for each sensor selected. Compare indoors and outdoors Dew Point to examine the operation of environmental control.

Degree Days:

Degree-days are a tool that can be used in the assessment and analysis of weather related energy consumption in buildings. Degree-days calculated from external temperature data and are based on 2 assumptions: A base indoor temperature and the natural temperature increase of the unheated building due to solar gain. The base temperature used to generate the report is an indoor temperature of 19 °C and the solar gain is 3.5 °C, in line with CIBSE hourly data methodology.

Degree-days are used to forecast the heating (or cooling) load required during a time period selected by the users.

Mould Germination

The evaluation of mould growth prediction for this report is based on the 'germination graph method' that uses the isopleths of required exposure time for germination of mould.

If the accumulated exposure time is greater or equal to the required exposure time, mould growth risk exists.

The colour coded maps show the accumulated exposure time, as an indication of possible areas of concern, even if mould growth risk does not exist.

Permanence:

The Permanence report is based on the concept of Isoperms that was developed by Donald K. Sebera. Paper permanence value at 20°C and 50% RH is assigned a relative value of 1.00. The report generates graphs of permanence over time.

Part Nos:

W722 – Annual Ensignt Licence supplied initially with W721A or W721B software disc

Note: we also provide remote installation if required (Part number W724)

Prerequisite:

You will need Synergy version 1.5.2 onwards

Note: we also provide a remote upgrade service if required (Part number W723)

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long-range signal
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For more information about

Synergy 

please see the Synergy
Datasheet.

¹ Chartered Institute of Building Services Engineers (CIBSE), Degree-days: Theory and Applications, technical Memorandum TM41 (London: CIBSE, 2005)

² MOON, H. J. & AUGENBROE, G. (2003) Evaluation of Hygrothermal Models for Mold Growth Avoidance Prediction. Eighth International IBPSA Conference. Eindhoven, Netherlands.

³ Donald K. Sebera Isoperms- An Environmental Management Tool , Publication Type: Reports- Evaluative Authoring Institution: Commission on Preservation and Access, Washington, DC

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Version 2