UNIVERSITY FOR THE CREATIVE ARTS

INVITATION TO TENDER (ITT)

FOR

Building Management System Maintenance and upgrade

REFERENCE: **UCA/FIN/SR/2016/009**

Issue 1

Tenders to be submitted by 12 noon on **19th August 2016**

CONTENTS

SECTION 1 - INTRODUCTION AND INSTRUCTIONS TO TENDERERS

SECTION 2 - SUMMARY STATEMENT OF THE REQUIREMENT

SECTION 3 - TENDER DECLARATION

SECTION 4 - GENERAL CONDITIONS OF CONTRACT

APPENDIX A - DETAILED STATEMENT OF REQUIREMENT

APPENDIX B - PRICING SCEDULE

1. INTRODUCTION AND INSTRUCTIONS TO TENDERERS

1.1. INTRODUCTION AND BACKGROUND TO THE UNIVERSITY

1.1.1. With around 7,000 students enrolled on more than 80 different courses, the University for the Creative Arts (the University) is one of the biggest providers of specialist art and design education in Europe.

1.1.2. The University has students from 76 countries worldwide, based on campuses at Canterbury, Epsom, Farnham, Maidstone and Rochester.

1.1.3. UCA is a specialist creative arts university with courses in art, design, architecture, media and communication.

1.1.4. Notable alumni include Turner Prize nominee Tracy Emin, Oscar winners Daniel Greaves and Suzie Templeton, fashion designers Zandra Rhodes and Karen Millen.

1.1.1. Further information about the University is available at: http://www.uca.ac.uk/about-us

1.2. TERMS OF INVITATION TO TENDER

1.2.1. This ITT has been issued by the University in connection with a competitive procurement conducted in accordance with the Open Procedure under the Public Contracts Regulations 2015.

1.2.2. The intention of this ITT is to enable the University to evaluate the submitted responses ("Completed Tenders") from tenderers ("Potential Providers") and, following presentations/interviews (if required), to appoint a winner.

1.2.3. Completed Tenders shall consist of a Supplier Capability response and a Costed Proposal. The Supplier Capability response is expected to evidence the capacity and capability of Potential Providers to deliver the services required by the University. The Costed Proposal is expected to provide the details of how the services would be delivered. The evaluation of Completed Tenders will consist of the assessment of Supplier Capability and, for those Potential Providers who pass this stage, the evaluation of the Costed Proposal.

1.2.4. The information contained within this document is confidential and is not to be used for any purpose other than tendering for the services described.

1.2.5. The University reserves the right, subject to the appropriate procurement regulations, to change without notice the basis of, or the procedures for, the competitive tendering process or to terminate the process at any time.

1.2.6. Direct or indirect canvassing of any University employee or agent by any Potential Provider concerning this ITT may result in the disqualification of the Potential Provider from this ITT process. Any actions that may be construed as an attempt to bribe a University employee or agent will result in disqualification. Potential Providers shall adhere to the requirements of the Bribery Act 2010.

1.2.7. The University expressly reserves the right to require a Potential Provider to provide additional information supplementing or clarifying any of the information provided in response to the requests set out in this ITT.

1.2.8. The University does not bind itself to accept the lowest, or any tender and reserves the right to accept the whole or any specified part of the tender unless the tenderer expressly stipulates otherwise.

1.2.9. In accordance with the obligations and duties placed upon public authorities by the Freedom of Information Act 2000 (the "FoIA"), all information submitted to the University may be disclosed in response to a request made pursuant to the FoIA.

1.2.10. In respect of any information submitted by a Potential Provider that it considers commercially sensitive, the Potential Provider shall:

- Clearly identify such information as commercially sensitive;
- Explain the potential implications of disclosure of such information; and
- Provide an estimate of the period of time during which the Potential Provider believes that such information will remain commercially sensitive.

1.2.11. Information falling into the above categories shall be submitted as part of the Completed Tender.

1.2.12. Where a Potential Provider identifies information as commercially sensitive, the University will endeavour to maintain confidentiality. Potential Providers should note, however, that even where information is identified as commercially sensitive, the University might be required to disclose such information in accordance with the FoIA. Accordingly, the University cannot guarantee that any information marked "commercially sensitive" will not be disclosed.

1.2.13. The University will not be liable for, or reimburse, any costs incurred by Potential Providers in connection with preparation and submission of Completed Tenders.

1.3. TENDER TIMETABLE

1.3.1. Set out below is the proposed timetable for this procurement. This timetable is intended as a guide and, whilst the University does not intend to deviate from this timetable, it reserves the right to do so:

Activity	Date
Issue Invitation to Tender (ITT)	**27th July 2016**
Last Date of ITT queries	**8th August 2016**
Issue ITT queries (if required)	**10th August 2016**
Tender Return Date	**19th August 2016**
Tender Interview (if required)	**w/com 22nd August 2016**
Award Notification Date	**26th August 2016**
Contract Commencement Date	**1st September 2016**

1.3.2 Suppliers who wish to express an interest in this tender should do so by e-mailing the procurement@ucreative.ac.uk mailbox confirming their interest and contact information.

1.4. TENDER QUERIES

1.4.1. This ITT is being provided on the same basis to all Potential Providers.

1.4.2. All requests for clarification or further information in respect of this ITT shall be directed to Technical Team via Email: TBaldwin@ucreative.ac.uk.

1.4.3. Should the University consider any question or request for clarification to be of material significance, both the question and the response will be communicated, in a suitably anonymous form, to all Potential Providers. Any communication from Potential Providers will be treated in confidence, subject to this paragraph and paragraphs 1.2.9 to 1.2.12.

1.5. FORMAT OF TENDER RESPONSE

1.5.1. The tender response shall include the following separate documents:

- A Costed Proposal for a 4 year period including:
  - Total cost for the Project as detailed in Paragraph 2 and Appendix A; please use Appendix B to record these costs
- Proposed service delivery and implementation plan
- A detailed response to the Supplier Capability requirement (see paragraph 2.9);
- Proposed fee and payment arrangements (all figures to be shown before and after addition of VAT, where relevant);
- The completed Tender Declaration (blank version at Section 3).

1.5.2. Completed Tenders shall consist of the above documents.

1.6. COMPLETED TENDERS

1.6.1. Tenderers must return one copy of their tender in a sealed envelope, marked "Tender for Building Management System Maintenance and upgrade by 12 noon on **19th August 2016** and addressed to:

Procurement Office
University for the Creative Arts
Falkner Road
Farnham
Surrey
GU9 7DS

1.6.2. Completed Tenders shall be received by no later than noon on **19th August 2016** (the Tender Return Date). Late tenders will not be considered.

1.6.3. Potential Providers may modify their Completed Tenders prior to the Tender Return Date and time. Completed Tenders may not be modified after the Tender Return Date and time.

1.6.4. Potential Providers may withdraw their Completed Tenders at any time by submitting a notice via the email address procurement@ucreative.ac.uk. Unless withdrawn, Completed Tenders shall remain valid for 90 days from the Tender Return Date.

1.7. CHANGES IN CIRCUMSTANCES

1.7.1. The University may:

- Reject a Completed Tender should there be a change of identity, control, financial standing or other factor which may affect the Potential Provider's ability to properly meet the University's requirements;
- Revisit information contained in the Completed Tender at any time to take account of changes in the circumstances of the Potential Provider;
- Require a Potential Provider to certify that there has been no material change to information submitted as part of Completed Tenders and, in the absence of such a certificate, to reject the Completed Tender.

1.8. TENDER EVALUATION

1.8.1. The evaluation of Completed Tenders will consist of the assessment of Supplier Capability and, for those Potential Providers who pass this stage, the evaluation of Costed Proposals. The award of any contract will be on the basis of the Most Economically Advantageous Tender, as defined by the evaluation criteria.

1.8.2. Supplier Capability responses will be assessed against the University's minimum requirements detailed in paragraph 2.9. In order to pass the Supplier Capability assessment, responses must meet all of the minimum requirements for at least two of the three proposed case studies.

1.8.3. Costed Proposals for those Completed Tenders that pass the Supplier Capability assessment will be evaluated against the following criteria:

Award Criteria	Weighting
Understanding of business of UCA, Higher Education (HE) and Further Education (FE) sector	10%
Staff Expertise	15%
Energy conservation solutions	25%
Experience of delivering maintenance service on TREND & Honeywell BMS systems	20%
BMS Life Cycle & Migration Programme and Costs	10%
Commercial/Costs	20%
TOTAL	**100%**

1.8.4. Where the University discovers any errors or omissions in Costed Proposals, Potential Providers will be notified via e-mail and given the opportunity to confirm adherence to the Costed Proposal Tender or to correct the error/omission. All confirmations/corrections shall be submitted via e-mail. The University may seek independent financial and market advice to validate information and to assist with the evaluation under conditions of confidentiality.

1.8.5. If required in order to complete the evaluation process, the University may invite those Potential Providers who have passed the Supplier Capability assessment to a presentation/interview following initial evaluation of Costed Proposals. The purpose of the presentation/interview is to clarify any elements of Costed Proposals and to validate scores allocated during the initial evaluation. Presentations/interviews will not be scored.

1.9. TENDER DEBRIEFS

1.9.1. On the Award Notification Date, those Potential Providers who have been unsuccessful will be notified of their scores and reasons why they were unsuccessful.

2. SUMMARY STATEMENT OF THE REQUIREMENT

2.1 BACKGROUND

The university currently has 3 sites using a mix of Trend and Honeywell equipment, Canterbury, Farnham and Epsom The systems vary in age and technology

The goals of the project will be:

To ensure the best performance from the Trend / Honeywell Building Management System (BMS), as well as the plant and equipment it controls, it is essential to provide adequate maintenance. Whilst the Trend BMS is extremely reliable, ongoing optimum performance of plant and control will only be achieved by the implementation of an effective system of maintenance and management.

A properly maintained and managed Trend BMS system will:

• Reduce operating costs

• Reduce energy consumption and CO2 emissions

• Minimise plant downtime by effective alarm monitoring and response

• Extend plant life using anticipation of plant failure

2.2 Break Down & Recovery

The breakdown and recovery service is essential to protect the University's original investment and reduce costly plant downtimes. In conjunction with the prevention services, the breakdown and recovery service is to provide an adequate response and repair should a fault occur.

• A remote modem support service that has a guaranteed response time to suit the business requirements

• The site response service should be adequate based on the critical nature of the plant

Response services should ensure that if a problem occurs the fault will be repaired and restored and not affect the normal operating business.

2.2 Prevention

<u>Network communications</u>

It is essential network communications are checked to prove the network is communicating with all controllers and nodes installed on the Trend / Honeywell LAN. A network map should be made available to provide the end user with a list of installed outstations on the network.

To aid in network fault finding an electrical map should be provided detailing the position of the outstations and nodes on the network. The LAN map and electrical map must then be updated on a regular basis to check all Trend / Honeywell devices are communicating on the network.

Fault Investigation
Adequate time will be allowed for scheduled maintenance tasks. Provision should also be allowed for fault investigation and attending to the end users requests, otherwise important scheduled maintenance tasks may not be completed on time. If maintenance tasks have not been completed they should be reported and rescheduled.

IQ Data Backup
Trend / Honeywell IQ controllers contain site specific programmable software that is created and downloaded on installation/commissioning. A copy of the software shall be uploaded and kept safe for downloading in the event of controller/battery failure.

A regular data backup program will be devised to ensure that the latest software is available, with the data backup interval based on the critical nature of the plant.

Should a failure occur and a download be required the IQ controller can be restored remotely.

The uploaded IQ files should be contained in a safe environment to be made available for updating and downloading.

IQL controller data (shell firmware, strategy, parameters, and logged data) is stored in flash memory, which is non-volatile and means a battery is not required.

A CSV file can be created using the Trend IQL tool that takes details of the modified parameters. In the event of an IQL replacement the CSV file can then be accessed to update the newly installed IQL controller.

The Honeywell system relies on Java operating alongside the Trend software. Any operating issues related to Java including costs must be factored in the tender return.

Supervisor Backup
A similar approach to the back up of controller files should be adopted for the backup of Trend / Honeywell supervisors based upon the frequency of data revisions and accumulation. The back-up is to be stored on secure media and made readily available.

Outstation and Supervisor Backups will be kept as a matter of course on both the PC and centrally stored on site. A further copy of the backup information will be kept by the BMS contractor, to ensure contingency and that in the event of an outstation failure the system can be quickly restored.

2.4 System Optimisation

IQ Controller Checks
IQ controllers should be scanned and checked for problems with the control strategy and hardware.
The following are examples of integrity scan that should be performed:

- Correct alarm address is set up
- Time and date checks, including BST
- Digital and analogue input alarms
- Loop alarms
- Driver output read back alarms
- IC comm failures
- Sensor offsets

- Drivers in fixed position
- Battery checks if applicable

These checks should be recorded in an easy to read format.

Alarm Checks

Although alarm checks form part of the IQ controller checks, in addition, checks should be carried out on the alarm supervisor database to ensure they are handled correctly and archived. Create backups and archive historic alarms to ensure that the hard drive maintains sufficient spare capacity necessary for the effective operation of the system.

Software Strategy and Control Checks

To ensure the plant is running to its maximum efficiency, control strategy software checks will be required. Controlled plant will need to be monitored for erratic control via logged sensor data. Possible causes of poor plant control could be degrading of sensor accuracy or strategy errors.

The following control strategy checks should be carried out:

- Control set points are correctly set
- Checks for overheating / under heating, over cooling /under cooling
- Time schedules are correctly set
- Holiday time schedules are correctly set
- Plant selected to auto
- Loop checks for attainment of desired set point
- Loop stability and avoidance of hunting
- Standby plant items operate on failure of duty plant
- Frost control is providing adequate protection

Energy Conservation

BMS provider shall provide an energy survey report to offer recommendations on improving the efficiency of the existing plant.
Also the provider should consider the following:

- Optimum start-stop
- Simultaneous operation of heating and cooling plant
- Boiler sequencing
- Variable speed drives
- Load cycling

Sensor Calibration

A sensor calibration schedule shall be implemented over a set period with critical sensors given priority
Sensor alarms shall be monitored from the BMS supervisor or from specialist BMS tools. A report shall be provided on any sensors that are in high alarm, low alarm or reading out of limits.

- Sensors calibrated within 0.5 deg C save 10-15% of fuel compared with sensors accurate to within 2 deg c.

Plant exercising

System exercising shall be carried out on the controlled plant. Regular checks should be carried out on items such as actuators, valves and dampers.
A plant- exercising schedule should be set up with high priority given to critical plant.
The following should be carried out on actuators:

- The actuator is in the correct location and installed correctly
- The actuator moves smoothly over the full control range
- The actuator has the correct movement to give the required travel of the final control device, and that any mechanical and / or electronic travel ranges and limits have been set correctly
- Any linkage adjustments for rotation, lift or close off have been suitably set and the linkages operate without excessive play
- There is no temperature difference across the controlled device with the actuator in the closed position.

The following should be carried out on dampers:

- The damper has been installed correctly
- The dampers are not damaged
- The damper section and linkages operate synchronously and without excessive play
- Slippage of the actuator on the damper shaft not occur
- The damper can operate between the minimum and maximum positions
- The damper moves in the correct direction
- The rate of damper movement is correct / appropriate

The following should be carried out on valves:

- The valve has been installed correctly
- The valve is undamaged
- The valve can operate over the whole range
- The valve movement is sufficient for the application

Checks shall be carried out on enable signals to plant, i.e. boilers and pumps are operating on demand and auto changeover control is working correctly. The physical condition of IQ controllers, sensors and other BMS equipment should also be checked for damage.

2.5 System Manuals and Documentation

Strategy manuals should be kept up to date with all modifications, to monitor and correct strategy if necessary. The manuals should contain the following content and be kept updated after any system changes:

- Control strategy
- Control descriptions
- Points list
- Data sheets
- Circuit diagrams / control panel diagrams

2.6 Maintenance Site Visits

Maintenance visits to consist of the following:

- Pre-planned service visits to the Trend/Honeywell outstations
- Pre-planned service visits to the trend 963 user interface
- Pre-planned service visits to all field mounted equipment
- 24 hour call-out facility
- Help desk /bureau technical support during business hours 08:00 to 17:00
- Remote response via BMS central bureau subject to remote connection being available

All work to be carried out by a fully trained TREND /Honeywell engineer who will be assigned to the contract.

One contact number which can be used 24 hours a day to avoid the need to make multiple telephone calls to find an engineer to attend site. Once a call has been received an engineer will contact the site within 30 minutes to discuss the problem and if a visit is needed they will provide an estimated time of arrival subject to the fault condition or (within the next working day frame).

2.7 Staff Training

The BMS contractor will be required to provide in house training on the site specific BMS systems to university staff. There will be a need for staff to attend the 963 Operators course, System Engineering and 963 Engineering course at a TREND training centre.
This will be organised through the BMS maintenance contractor

2.8 Schedule of Equipment

<u>UCA Farnham</u>
1 off Trend IQ151 outstations / controllers
2 off Trend IQ3/96 outstations / controllers
3 off Trend IQ241 outstations / controllers
1 off Trend IQ233 outstations / controllers
14 off Trend IQ22x outstations / controllers
2 off Trend IQ111 outstations / controllers
3 off Trend IQ204 outstations / controllers

<u>UCA Epsom</u>
1 off Trend IQ251 outstations / controllers
2 off Trend IQ241 outstations / controllers
2 off Trend IQ22x outstations / controllers
1 off Honeywell x outstation / controllers

<u>UCA Canterbury</u>
3 off Trend IQ233 outstations / controllers
2 off Trend IQ231 outstations / controllers
1 off Trend 963 ‘Head-end’ (Server version)
5 off Trend IQ21x outstations / controllers
3 off Trend IQ22x outstations / controllers

Further information on the site specific Trend systems and pricing schedule are provided in Appendix A and B

2.9 Supplier Capability

The University requires evidence of the capacity and capability of a Supplier to fulfil the requirement outlined in section 2 and Appendix A; UCA requires all tenderers to provide examples/case studies of similar projects; staff experience; experience of working with TREND and Honeywell BMS Systems and experience of working within the FE/HE Sector.

3. TENDER DECLARATION

3.1. To: Procurement Office
University for the Creative Arts
Falkner Road
Farnham
Surrey
GU9 7DS

3.2. We undertake to provide the services stated in our Completed Tender, reference UCA/FIN/SR/2016/009.

3.3. We accept the provisions of this Invitation to tender and offer to supply the services in accordance with the prices, terms and conditions stated herein.

3.4. We understand that the University for the Creative Arts will disregard any oral agreement or arrangement made by us, and that we have checked our Completed Tender before submission. Any amendments to Completed Tenders, if received by the University after the time specified for receipt of tender, may not be considered.

3.5. We undertake, and it shall be a condition of any Contract that:

3.5.1. the following is a bona fide Completed Tender, intended to be competitive and that we have not fixed or adjusted the amount of the Completed Tender by or under or in accordance with any other person. We also certify that we have not done and we undertake that we will not do any of the following:

3.5.1.1. Communicate to any person other than the person calling for these Completed Tenders the rates or approximate rates in the Completed Tender;

3.5.1.2. enter into an agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any Completed Tender to be submitted;

3.5.1.3. offer to pay or give or to receive, or agree to pay or give or receive, any sum of money or consideration directly or indirectly to or from any person for doing or having done or causing or having caused to be done in relation to this or any other Invitation to Tender or proposed Invitation to Tender for the said services any act or thing of the sort described above. In this context "person" includes any person and any-body or association, corporation or incorporate and "any agreement or arrangement" includes any such transaction formal or informal whether legally binding or not.

3.5.2. No variations in, or acceptance of any Invitation to Tender, or Completed Tender shall be binding unless agreed in writing.

3.6. This Completed Tender shall remain open for acceptance for a period of three months from the final date for the submission of Completed Tenders.

3.7. We also confirm that we have not allowed any amount in our Completed Tender for Value Added Tax.

3.8. We undertake that any of our employees, agents or servants providing the services under this Contract, where so required by the University for the Creative Arts will

enter into and abide by a Confidentiality Agreement to be in a form acceptable to the University for the Creative Arts.

3.9. We understand and it is agreed that the University for the Creative Arts shall retain the right to reject any and all Completed Tenders, in whole or in part. It is furthermore agreed that the University for the Creative Arts shall be under no obligation to select the lowest or any other Completed Tender.

3.10. We have taken all necessary steps to inform ourselves regarding this requirement and we understand and agree that the University for the Creative Arts shall not be liable for any inaccuracy or insufficiency in the information available to us in connection with this Invitation to Tender.

Dated: .....

Signed: .....

Name (Capitals): .....

Position: .....

On behalf of: .....

Address: .....

.....

.....

4. **GENERAL CONDITIONS OF CONTRACT**

1. Definitions

In these conditions:

"University" means the University for the Creative Arts (UCA) unless redefined in the Contract documents and/or the Purchase Order.

"Supplier" means the person, firm or company to whom the Contract is issued.

"Work" means the work to be performed and the services to be rendered as specified in the Contract and/or the Purchase Order.

"Contract" means the Contract between the University and the Supplier consisting of the Form of Agreement, Description of Work, Price Schedule, these Terms and Conditions, and any other documents (or parts thereof) specified in the Contract and/or the Purchase Order.

"Purchase Order" means the document authorising the release of University funds. It summarises the University's requirements for the Contract and, for straightforward transactions, may be used without a separate written Contract.

"he" and "his" are used for narrative purposes only and are not meant to favour or refer to a particular gender. As the context requires, "he" and "his" may be used in a collective sense in relation to the staff of the Supplier.

2. The Work

2.1 The Supplier shall complete the Work with reasonable skill, care and diligence, in accordance with the Specification constituting the brief for this Contract and with due regard for the recognised protocols and ethics of consultancy.

2.2 The Supplier shall conduct the Work with due regard to the Health and Safety of its own employees and employees of the Institute and for any other personnel engaged in any activities constituting the Work.

2.2 The Supplier shall provide the University with such reports on the Work at such intervals and in such form as the University may from time to time require.

2.3 The University reserves the right by notice to the Supplier to modify its requirements in relation to the Work and any alteration to the Contract price or the completion date arising by reason of such modification shall be agreed between the parties. Failing agreement the matter shall be determined by arbitration in accordance with the provisions of Condition 15.

3. Supplier's Personnel

3.1 The Supplier shall provide the University with a list of the names and business addresses of all others regarded by the Supplier as key personnel and, if and when instructed by the University, all other persons who may be at any time concerned with the Work or any part of it, specifying in each case the capacities in which they are so concerned, and providing other supporting evidence or information as the University may reasonably require.

3.2 The University reserves the right to reject key personnel selected by the University for the Work. The University may instruct that key personnel are removed from the Work by giving reasonable notice and reason. The Supplier shall take all reasonable steps to comply with such a request and shall bear the cost of any notice, instruction or decision by the University.

4. Price

4.1 The University shall pay to the agreed price as specified in the Contract and/or the Purchase Order.

4.2 Unless otherwise stated in the Contract and/or the Purchase Order, payment will be made by the end of the month following that in which a valid and accurate invoice is received, for work completed to the satisfaction of the University.

4.3 Value Added Tax, where applicable, shall be shown separately on all invoices as a strictly net extra charge.

4.4 Disbursements necessarily incurred by the Supplier in the execution of the Contract will be refunded by the University only if agreed in writing by the University in advance.

5. Gifts or Payments

5.1 The Supplier shall not offer or give, or agree to give, to any member, employee or representative of the University any gift or consideration of any kind as an inducement or reward for doing or refraining from doing, or for having done or refrained from doing, any act in relation to the obtaining or execution of this or any other contract with the University or for showing or refraining from showing favour or disfavour to any person in relation to this or any such contract.

5.2 The Supplier is reminded that the Bribery Act 2010 makes it a criminal offence to give, promise or offer a bribe or to request, agree to receive or accept a bribe in the UK or abroad. Bribery is the offer, promise, giving, demanding or acceptance of an advantage as an inducement for an action which is illegal, unethical or a breach of trust.

6. Copyright and Intellectual Property

6.1 All reports and other documents and materials and the copyright, intellectual property rights or similar protection therein arising out of the performance of the Work by the Supplier are hereby assigned to the University.

6.2 The provisions of this Condition 6 shall apply during the continuance of this Contract and after its termination howsoever arising.

7. Indemnities and Insurance

7.1 The Supplier shall indemnify and keep indemnified the University and its employees and agents against all actions, claims, demands, costs and expenses incurred by or made against the University or its employees or agents in respect of any loss or damage or personal injury (including death) which arises from any advice given or anything done or omitted to be done under this Contract to the extent that such loss, damage or injury is caused by the negligence or other wrongful act of the Supplier, his servants or agents.

7.2 The Supplier (if an individual) represents that he is regarded by all relevant crown bodies and agencies such as the Inland Revenue and Contributions Agency as self-employed and accordingly shall indemnify the University against any tax, national insurance contributions or similar impost for which the University may be liable in respect of the Supplier by reason of this Contract.

7.3 The Supplier shall effect with an insurance company or companies acceptable to the University a policy or policies covering all the matters which are the subject of the indemnities and undertakings on the part of the Supplier contained in this Contract in the sum of £5,000,000 at least in respect of one incident and unlimited in total, unless otherwise agreed by the University in writing.

7.4 If requested, a certificate evidencing the existence of such policies shall be provided by the Supplier to the University.

8. Employment Discrimination

8.1 The Supplier shall not unlawfully discriminate within the meaning of any relevant legislation or any statutory modification or re-enactment thereof relating to discrimination in employment whether by race, ethnic or national origin, colour, creed, disability, political belief, membership of or activities as part of a trade union, social or economic class, sex or gender, sexual orientation, marital or parental status or other family circumstance or any other ground not relevant to good employment practice. The Supplier shall take all reasonable steps to ensure the observance of these provisions by all servants, employees or agents of the Supplier and all sub-contractors employed in the execution of the Contract.

9. Confidentiality

9.1 The Supplier shall not disclose and shall ensure that his employees do not disclose any information of a confidential nature obtained by him/her by reason of this Contract except information which is in the public domain otherwise than by reason of a breach of this provision.

9.2 The provisions of this Condition 9 shall apply during the continuance of this Contract and after its termination howsoever arising.

10. Freedom of Information

10.1 Under the Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations 2004 ("EIRs"), the University is obliged (subject to the application of any relevant exemptions and, where applicable, the public interest test) to disclose information in response to requests for information.

10.2 You need to be aware that the University could receive requests for *any* information relating to this Contract. The University cannot contract out of its obligations in this respect and will only accept confidentiality clauses in very exceptional and narrowly defined circumstances. In this regard, your attention is drawn to the Code of Practice (in particular, section VIII thereof) issued by the Lord Chancellor under section 45 of the FOIA (the Code of Practice issued under the 2004 EIRs includes similar guidance).

11. Termination

11.1 The University shall be entitled to terminate this Contract for any reason by giving to the Supplier not less than thirty days notice to that effect.

11.2 The Supplier shall notify the University in writing immediately upon the occurrence of any of the following events:

(a) where the Supplier is an individual if a petition is presented for the Supplier's bankruptcy for whatever reason or if an administrator is appointed to manage his affairs; or

(b) where the Supplier is not an individual but is a firm or a number of persons acting together in any capacity if any event in 11.2(a) of this condition occurs in respect of any partner in the firm or any of those persons or a petition is presented for the Supplier to be wound up as an unregistered company; or

(c) where the Supplier is a company if the company passes a resolution for winding-up or the court makes an administration order or a winding-up order.

11.3 In the occurrence of any of the events described in paragraph 10.2 (a), (b) or (c) or if the Supplier shall have committed a material breach of this Contract and (if such breach is capable of remedy) shall have failed to remedy such breach within thirty days of being required by the University in writing to do so the University shall be entitled to terminate this Contract by notice to the Supplier with immediate effect.

11.4 Termination under paragraphs 10.1 or 10.2 shall not prejudice or affect any right of action or remedy which shall have accrued or shall thereupon accrue to the University and shall not affect the continued operation of Conditions 7 and 10.

12. Recovery and Sums Due

Wherever under this Contract any sum of money is recoverable from or payable by the Supplier that sum may be deducted from any sum then due, or which at any later time may become due, to the Supplier under this Contract or under any other agreement or contract with the University.

13. Assignment and Sub - Contracting

13.1 The Supplier shall not assign or sub-contract any portion of the Contract without the prior written consent of the University. Sub-contracting any part of the Contract shall not relieve the Supplier of any obligation or duty attributable to him/her under the Contract or these Conditions.

13.2 Where the University has consented to the placing of sub-contracts, copies of each sub-contract shall be sent by the Supplier to the University immediately it is issued.

14. Notices

Any notice given under or pursuant to the Contract may be sent by hand or by post or by facsimile or other means of telecommunication resulting in the receipt of a written communication in permanent form and if so sent or transmitted to the address of the party shown on the Contract and/or Purchase Order, or to such other address as the party may by notice to the other have substituted thereof, shall be deemed effectively given on the day when in the ordinary course of the means of transmission it would first be received by the addressee in normal business hours.

15. Status of Contract

Nothing in the Contract shall have the effect of making the Supplier the servant or employee of the University.

16. Arbitration

All disputes, differences or questions between the parties to the Contract with respect to any matter or thing arising out of or relating to the Contract, other than a matter or thing as to which the decision of the University is under the Contract to be final and conclusive, and except to the extent to which special provision for arbitration is made elsewhere in the Contract, shall be referred to the arbitration of two persons one to be appointed by the University and one by the Supplier or their Umpire in accordance with the provisions of the Arbitration Act 1950 or any statutory modification or re-enactment thereof.

17. Headings

The headings to Conditions shall not affect their interpretation.

18. Governing Law

These Conditions shall be governed by and construed in accordance with English Law and the Supplier hereby irrevocably submits to the jurisdiction of the English Courts. The submission to such jurisdiction shall not (and shall not be construed so as to) limit the right of the University to take proceedings against the Supplier in any other court of competent jurisdiction.

APPENDIX A: DETAILED SERVICE REQUIREMENT

Epsom Trend System Information

Trend network device list

070 Epsom EINC (EINC V4.20 18/02/2003)

00
4 (CNC v2.51)

00
5 (CNC v2.51) (NDP)

01
1 MAIN BOILERS (IQ251 Iss3.13 Apr 13 2004)

01
2 REFECTORY AHU (IQ220 Iss3.12 Nov 28 2002)

01
3 BOARDROOM AHU (IQ220 Iss3.12 Nov 28 2002)

02
1 LLRC BOILERS (IQ241 Iss3.12 Nov 28 2002)

02
2 LLRC REHEATS (IQ241 Iss3.00 Mar 20 2001)

06
4 MENERGA INT (XN220 Iss1.5 Mar 14 2000)

06
5 (CNC v2.51)

07
0 (TMN/High Speed Integral)(ANC v4.30)

09
9 IQView 8 (v2.00)

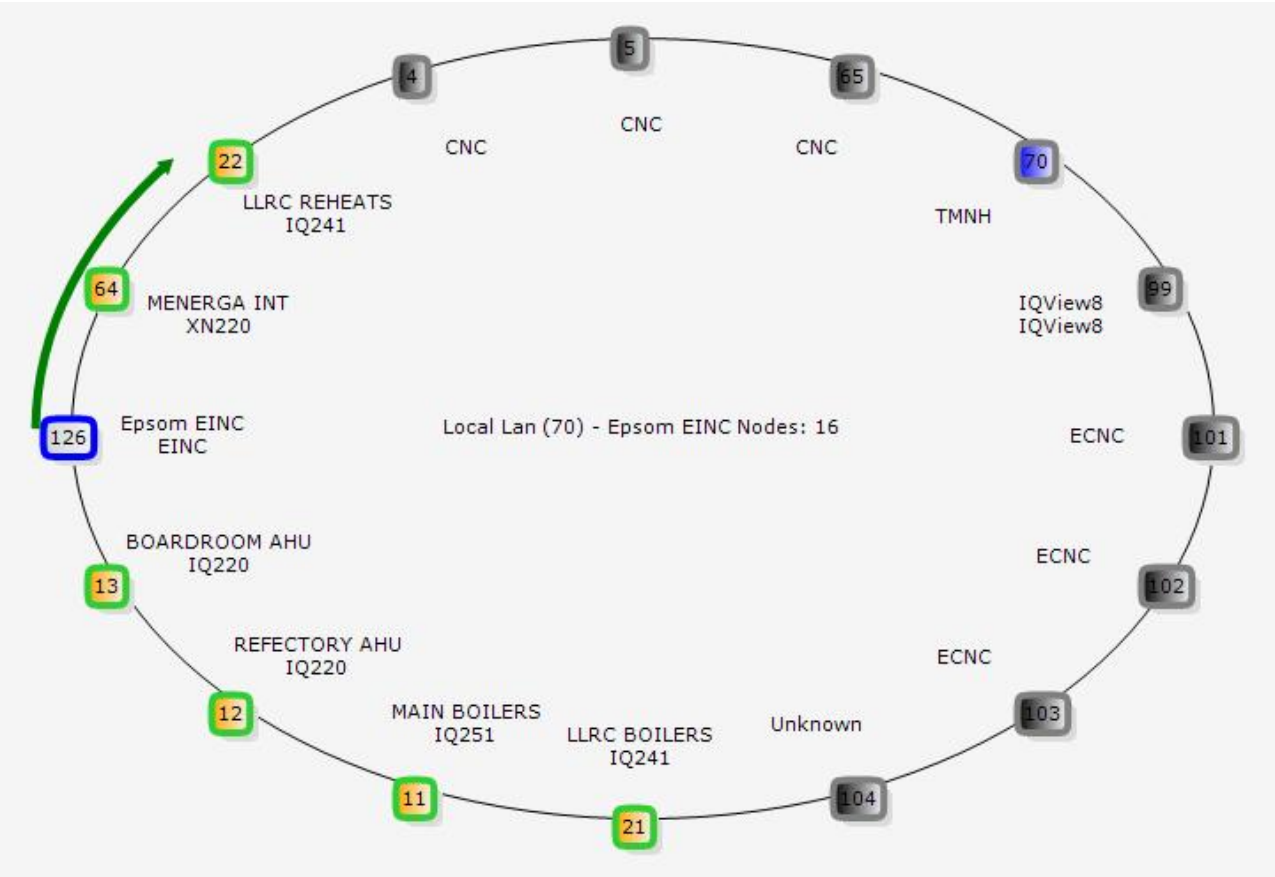
10
1 963 v3.30 (TCOMSRV v3.30) – (via ECNC, server based at Canterbury)

10
2 (ECNC v4.20)

10
3 (ECNC v4.20)

12
6 EINC (IP: 10.5.3.191_S/N: 255.255.252.0) (VCNC Port @ 2774_Remote Alarm IP: 10.1.9.103)

Electrical Lan Map



Trend Outstation - Maintenance Check List

SITE:	UCA Epsom				
Address:	011	**Outstation:**	**IQ 251**	**Location:**	Old Boiler room
LAN:	001	**Type:**	**Iss. 3.13**		

Wiring Point	Point N°	Description	Value	Units	Offset	Operating Dev/Check	Note
		Input Card A					
AA1							
AA2	S2	Gallery Temp	22.4	ºC	-0.6	TB/TS	
AA3							
AA4							
AA5							
AA6	S6	Seminar Rooms Temp	24.0	ºC	-0.7	TB/TS	
AA7	S7	Outside Air Temp	16.4	ºC	-0.6		
AA8	S8	VT Pumps Pressure	1.49	Bar	0	DPIL/A	
		Input Card B					
BA9	S9	Boiler 1 Flow Temp	68.5	ºC	2	✓ - TB/TI/S	3
BA10	S10	Boiler 1 Return Temp	64.9	ºC	0	✓ - TB/TI/S	3
BA11	S11	Boiler 2 Flow Temp	63.1	ºC	-1	✓ - TB/TI/S	3
BA12	S12	Boiler 2 Return Temp	63.2	ºC	-1	✓ - TB/TI/S	3
BA13	S13	HWS Storage Temp	59.5	ºC	1	✓ - TB/TI/S	3
BA14	S14	HWS Return Temp	56.8	ºC	1	✓ - TB/TI/S	3
BA15	S15	1st Floor Room 119	24.7	ºC	0	TB/TS	
BA16	S16	Workshops Rm 42 TEMP	22.9	ºC	0	TB/TS	
		Input Card C					
CA17	S17	HWS Sec Pump DPIL	0.44	Bar	0	DPIL/A	
CA18							
CA19							
CA20							
CA21							
CA22							
CA23							
CA24							
		Input Card D					
DA25							
DA26							
DA27							
DA28							
DA29							
DA30							
DA31							
DA32							

Digital Inputs

Wiring Point	Point N°	Description	Status	Req	Alarm Enabled	Operating Device /Check	Note
		Input Card A					
AD1	I1	B1 Shunt Pump Run	I	O	O		
AD2	I2	Boiler 1 Fault	O	O	I		
AD3	I3	B2 Shunt Pump Run	I	O	O		
AD4	I4	Boiler 2 Fault	O	O	I		
AD5	I5	Primary Shunt P3 Run	O	O	O		
AD6	I6	Primary Htg P5 Run	O	O	O		
AD7	I7	Primary Shunt P4 Run	O	O	O		
AD8	I8	Primary Htg P6 Run	O	O	O		
		Input Card B					
BD9	I9	HWS Sec Pump DPS	O	O	O	X Via Analog Input CA17	4
BD10	I10	Flue Fan Run	I	O	O		
BD11	I11	PU Healthy	I	I	I		
BD12	I12	Gas Valve Status	I	I	O		
BD13	I13	HTG Pumps DPS	I	O	O		
BD14	I14	Htg P1 Inverter Trip	O	O	I		
BD15	I15	Htg P2 Inverter Trip	O	O	I		
BD16	I16	Spare	O	O	O		
		Input Card C					
CD17	I17	B1 Shunt Pump Trip	O	O	I		
CD18	I18	B2 Shunt Pump Trip	O	O	I		
CD19	I19	Pri Shunt P3 Trip	O	O	I		
CD20	I20	Pri Shunt P4 Trip	O	O	I		
CD21	I21	Pri Htg P5 Trip	O	O	I		
CD22	I22	Pri Htg P6 Trip	O	O	I		
CD23	I23	Pri HWS Pump P7 Trip	O	O	I		
CD24	I24	HWS System Fault	O	O	I		
		Input Card D					
DD25	I25	Flue Fan VSD Run	I	O	O		
DD26	I26	Flue Fan VSD Trip	O	O	I		
DD27							
DD28							
DD29							
DD30							
DD31							
DD32							

Outputs

Wiring Point	Point N°	Description	Output Value	Software Source	Operation Device/ Check	Note
		Output Card E – EDO				
E1	D1	Boiler 1 Shunt Pump	I	28.0	✓	
E2	D2	Boiler 2 Shunt Pump	I	28.1	✓	
E3	D3	P3 Pri Shunt Pump 1	O	421.7		
E4	D4	P4 Pri Shunt Pump 2	O	423.7	✓	
E5	D5	Main Heating Pump 1	I	36.1		
E6						
E7						
E8	D8	FE Block Valve	O	34.0	✓ - Belimo SM24A	
		Output Card F – EDO				
F9	D9	Rm119 Valve	O	33.2	SM24A	
F10	D10	Refectory Valve	O	34.2	✓ - Belimo SM24A	
F11	D11	Seminar Rms Valve	O	33.4	✓ - Belimo SM24A	
F12	D12	Gallery Valve	O	33.6	SM24A	
F13	D13	Flue Fan Enable	I	27.0		
F14						
F15						
F16						
		Output Card G – EAO				
G17	D17	Boiler 1 Enable	0	174	✓ - 2RM – Low Relay	2
G18	D18	Boiler 2 Enable	0	175	✓ - 2RM – Low Relay	2
G19	D19	Pri Htg Pumps 2RM	0	185	2RM	
G20						
G21						
G22	D21	HWS Enable	I	418.7	✓ - SRMV	
G23	D23	Main Heating Pump 2	O	36.2	SRMV	
G24	D24	HWS Pumps 2RM	100	186	2RM	
		Output Card H – EAO				
H25	D25	HTG Pump 1 Speed OP	92.24	125	✓ - Danfoss VSD	
H26	D26	HTG Pump 2 Speed OP	0	126		
H27	D27	Flue Fan VSD Speed	80	476		
H28						
H29						
H30						
H31						
H32						

Set-points

Knob N°	Description/Label	Value	Units
K1	Room 119 SP	20.5	ºC
K2	Gallery SP	20.5	ºC
K3	FE Block SP	20.5	ºC
K4	Refectory SP	20.5	ºC
K6	Seminar Rms SP	20.5	ºC
K7	Hi Outside HTG OFF	15.0	ºC
K8	Summer Setpoint	10.0	ºC
K9	Frost Stage 1 SP	2.0	ºC
K10	Frost Stage 2 SP	10.0	ºC
K11	Frost Stage 3 SP	12.0	ºC
K14	Boiler Rotate Hrs	24.0	Hrs
K15	Boilers Fixed SP	80.0	ºC
K16	Pump Exercise Time	12.30	hhmm
K17	HWS Lo-Limit Alarm	50.0	ºC
K18	HWS Lo Alarm Delay	90.0	Mins
K19	Pump Exercise Day	2.0	Day
K20	VT Pumps Pressure SP	1.5	Bar
K21	VT Pump Manual Speed	80.0	%
K22	VT Pumps MAX Speed	100.0	%
K23	VT Pumps MIN Speed	20.0	%
K24	LTHW Summer SP	65.0	ºC
K25	Max VT Flow Temp	80.0	ºC
K26	VT Slope Adjust	-2.0	
K27	LTHW Winter SP	70.0	ºC
K28	Boiler Max Flow	85.0	ºC
K31	Flue Fan Speed	80.0	%

Switches

Switch N°	Description/Label	Status
W2	Boilers Manual ON	O
W3	Boilers Manual OFF	O
W4	Boilers Fixed SP ON	I
W5	HTG Duty Pump 0=P1	O
W6	HTG Pump 1 Enable	I
W7	HTG Pump 2 Enable	O
W8	HTG Pumps Manual ON	O
W9	Common Fault Reset	O
W10	HTG Pumps Manual OFF	O
W11	Rotate Boilers	I
W12	Pri Htg Pmp Duty	O
W14	HWS 24 Hour Enable	O
W15	Pri Shunt Pmp Duty	O
W16	Pri Shunt Pmps Reset	O
W17	Pri Htg Pmps Reset	O

Internal Points

Point N°	Description	Value	Units		Check	Note
	Internal Analogue Points					
S33	Calculated LTHW SP	65.0	ºC			
S34	LTHW Demand	12	%			
S39	Boiler Duty	2	Num			
S40	Refectory Temp	24.88	ºC			
S41	AVG Refectory Temp	24.88	ºC			
	Internal Digital Points	**Status**	**Req' Status**	**Alarm Enabled**		
I33	Hi Ambient ACTIVE	I	O	O		
I34	Frost Stage 1 ACTIVE	O	O	O		
I35	Frost Stage 2 ACTIVE	O	O	I		
I36	Frost Stage 3 ACTIVE	O	O	I		
I37	Summer Mode	I	O	O		
I38	Pri Heating P5 Fail	I	O	O		
I39	Pri Heating P6 Fail	I	O	O		
I40	B1 Shunt Pump Failed	O	O	O		
I41	B2 Shunt Pump Failed	I	O	O		
I42	HWS Sec Pump Flow	I	O	O		
I43	Pri Shunt P3 Failed	O	O	O		
I44	Pri Shunt P4 Failed	O	O	O		
I45	Gas Valve Fail	O	O	I		

Time Zones

	Time Zones	
Label		**Switch Times**
Z1	Library & Aud/Vis	Mon – Fri 08:30 - 18:30 Sat/Sun OFF
Z2	Gallery	Mon – Fri 08:30 - 18:00 Sat 08:30 - 12:00 Sun OFF
Z3	FE Block	Mon – Fri 08:30 - 18:00 Sat/Sun OFF
Z4	Refectory	Mon – Fri 08:30 - 18:00 Sat/Sun OFF
Z5	HWS Timezone	Mon – Fri 07:00 - 18:00 Sat/Sun OFF

Trend Outstation - Maintenance Check List							
SITE:	Epsom UCA						
Address: 012 **LAN:** 070	**Outstation Type:**	**IQ 222** **Iss. 3.12**	**Location Identifier:**	Electrical riser cupboard in Refectory REFECTORY AHU			

Wiring Point	**Point N°**	***6 Description***	**Value**	**Units**	**Source Offset Setting**	**Operating Device/ Check**	**Notes**
1-In1	S1	AHU Supply Temp	16.8	°C	-0.7	✓ TB/TI/S	
2-In2	S2	Refectory Space Temp	24.4	°C	0	✓ TB/TS	
3-In3	I3	OSN12 Fire Alarm	I	I	I	n/t	2
4-In4	I4	Supply Fan DPS	O	O	O	✓ DPSA-200	3
5-In5	I5	AHU Filter Dirty	O	O	I	× DPSA-1000	4
6-In6	I6	Electric HTR Input	O	O	O	✓	3
7-L1	D1	Supply Enable	I		21,4	✓	3
8-L2	D2	Extract Enable	I		21,3	✓	3
9-L3	D3	6 Stage HTR Battery	0.0	%	108	✓	3
10-L4	D4	Fan Convectors	O		22,0	n/t	
11-L5		Spare					
12-L6		Spare					

Internal Sensors

Point N°	**7** Description/Label	Value	Units
S9	Outside Air Temp	16.8	˚C
S10	AHU Hours Run	1587.6	Hrs
S11	AHU Supply SP	20.5	˚C
S12	Refectory Space SP	20.5	˚C
S13	Elect Heater O-P	0.0	˚C

Internal Digital Inputs

Point N°	**8** Description/Label	Status	Req	Alarm Enabled
I10	Htr Battery Tripped	O	O	O
I11	Hi Ambient Status	I	I	I
I12	Supply Fan Failed	O	O	O

Set Points

Knob N°	**Description/Label**	**Value**	**Units**
K1	Refectory Space DB	0.5	°C
K2	AHU MIN SUP TEMP	15	°C
K3	AHU MAX SUP TEMP	26	°C

Switches

Switch N°	Description/Label	Status
W1	AHU Shutdown Switch	O
W2	AHU Hrs Run Reset	O

Time Zones

Label	Switch Times
Z1 Refectory AHU	Mon to Fri 08:30 – 18:00 Sat & Sun OFF

Trend Outstation - Maintenance Check List					
SITE:	Epsom UCA				
Address: 013 **LAN:** 070	**Outstation:** **Type:**	**IQ 22x** **Iss. 3.12**	**Location:** **Identifier:**	Room 102 next to the Board Room BOARDROOM AHU	

Wiring Point	Point N°	9 Description	Value	Units	Source Offset Setting	Operating Device/ Check	Notes
1-In1	S1	AHU Supply Temp	20.5	°C	0	✓	
2-In2	S2	Boardroom Space Temp	21.7	°C	-0.8	✓ TB/TS	
3-In3	I3	OSN13 Fire Alarm	I	I	I	n/t	2
4-In4	I4	Supply Fan DPS	O	O	O	✓	
5-In5	I5	PIR Detector	I	O	O	✓	
6-In6	S6	4-DIX	11.9	V		✓	
7-L1	D1	Supply Enable	O		21,4	✓	
8-L2	D2	Extract Enable	O		23,0	✓	
9-L3	D3	3 Stage HTR Battery	0.0	%	108	n/t	
10-L4	D4	Recoup Damper	O		152,0	✓	
11-L5	D5	AC Units Enable	O		22,5	n/t	3
12-L6		Spare					

4-DIX Module

4-DIX MODULE No1 S6							
Wiring Point	**Point N°**	**Description**	**Status**	**Req**	**Enabled**	**Operating Device /Check**	**Notes**
Dix 1-1	I12	Electric HTR Input	O	O	O	n/t	
Dix 1-2	I13	AHU Filter Dirty	O	O	O	✓	
Dix 1-3		Spare					
Dix 1-4		Spare					

Internal Sensors

Point N°	**10** Description/Label	Value	Units
S9	Outside Air Temp	17.7	˚C
S10	AHU Hours Run	491.1	Hrs
S11	AHU Supply SP	19.5	˚C
S13	Elect Heater O-P	0	˚C

Internal Digital Inputs

Point N°	**11** Description/Label	Status	Req	Alarm Enabled
I9	Htr Battery Tripped	O	O	O
I10	Supply Fan Failed	O	O	O
I11	Hi Ambient Status	I	I	I

Set Points

Knob N°	Description/Label	Value	Units
K1	Boardroom Space SP	21	°C
K2	Boardroom Space DB	0.5	°C
K3	AHU MIN SUP TEMP	15	°C
K4	AHU MAX SUP TEMP	24	°C
K5	ACUnits Min Run Time	0.25	Hrs

Switches

Switch N°	Description/Label	Status
W1	AHU Shutdown Switch	O
W2	AHU Hrs Run Reset	O

Time Zones

Label	Switch Times
Z1 Boardroom	Mon to Fri 09:00 - 18:00 Sat & Sun OFF

Trend Outstation - Maintenance Check List

SITE:	Epsom UCA				
Address:	064	**Outstation:**	**IQ XNC200**	**Location:**	LLRC Plant Room
LAN:	070	**Type:**	**Iss. 1.5**	**Identifier:**	MENERGA INT

Inputs

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Operating Device/ Check	Note
-	S1	RA TEMP	22.1	ºC		✓	
-	S2	SA TEMP	20.9	ºC		✓	
-	S3	FA TEMP	18.1	ºC		✓	
-	S4	FA DMPR	58.4	%		✓	
-	S5	EXHAUST AIR DMPR	100.0	%		✓	
-	S6	RECIRC HTG DMPR	0.0	%		✓	
-	S7	RECIRC DEFROST	0.0	%		✓	
-	S8	FA BYPASS DMPR	41.1	%		✓	
-	S9	EXHAUST AIR BYPASS	41.1	%		✓	
-	S10	LPHW VALVE	0	%		✓	
-	S11	SA VOLUME	19909	M3/H		✓	
-	S12	RA VOLUME	18918	M3/H		✓	
-	S13	SA DUCT PRESSURE	272	Pa		✓	
-	S17	CALC SAT SP	20	ºC		✓	
-	S18	VENT HRS RUN	3440	Hrs		✓	
-	S19	LPHW PUMP HRS RUN	2367	Hrs		✓	
-	S20	ADIABATIC CLG HRS	0.53	Hrs		✓	
-	S21	NIGHT COOLING HRS	0.01	Hrs		✓	
-	S22	COMPRESSOR HRS	262.9	Hrs		✓	
-	S23	UV LAMP HRS	320.3	Hrs		✓	
-	S32	FAIL COUNT	2499			✓	
-	I9	AHU RUNNING	I	O	O	✓	
-	I10	LPHW PUMP RUN	O	O	O	✓	
-	I11	ADIABATIC COOLING	O	O	O	✓	
-	I12	FREE NITE CLG RUN	O	O	O	✓	
-	I13	SA FAN FAULT	O	O	I	✓	
-	I14	RA FAN FAULT	O	O	I	✓	
-	I15	FROST PROTECT	O	O	I	✓	
-	I16	ADIABATIC CLG FAULT	O	O	I	✓	
-	I17	FA FILTER DIRTY	O	O	I	✓	
-	I18	RA FILTER DIRTY	O	O	I	✓	
-	I19	AHU PLACED IN AUTO	I	I	O	✓	
-	I20	DX UNIT RUNNING	O	O	O	✓	
-	I21	DX UNIT FAULT	O	O	I	✓	
-	I22	UV LAMP RUNNING	O	O	O	✓	
-	I23	UV LAMP FAULT	O	O	I	✓	

Set Points

Knob N°	Description/Label	Value	Units
K1	CALC SAT SETPOINT	24	ºC
K2	MEN HRS RUN RST INT	0	Hrs

Switches

Switch N°	Description/Label	Status
W2	ENABLE SIG FROM BMS	I
W3	ENABLE RECIRC MODE	O
W4	ENABLE DX COOLING	I

Centraline Lynx terminal unit controllers

CLLY4024 First Breakout NID: 04 7a 5c 07 04 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_Breakout_Temp	24.0 ºC {unackedAlarm}		
2	FF_Breakout_Temp_Clg_SP	25.0 ºC {ok} @ 16		
3	FF_Breakout_Co2_High_SP	1200 ppm {ok} @ def		
4	nvoVAV_Mode_To_H	1.00 {ok}		
5	FF_Breakout_Cmd	Occupied {ok} @ 16		
6	FF_Breakout_VAV_Damper	20.0 % {ok}		
7	nviUnit_Overrid	0.00 {ok} @ 16		
8	nviUnit_Overrid1	0.00 {ok} @ 16		
9	FF_Breakout_Temp_Htg_SP	22.0 ºC {ok} @ 16		
10	FF_Breakout_HTG_Valve	Closed {ok}		
11	nviControl_Selec	0.00 {ok} @ def		
12	FF_Breakout_Co2	71 ppm {ok}		

CLLY4024 First-Photo_Studio1 NID: 04 89 ff e7 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_Photo_Studio1_Co2			
2	FF_Photo_Studio1_Temp			
3	FF_Photo_Studio1_Temp_Clg_SP			
4	FF_Photo_Studio1_Temp_Htg_SP			
5	FF_Photo_Studio1_Co2_High_SP			
6	FF_Photo_Studio1_VAV_Mode			
7	FF_Photo_Studio1_Cmd			
8	FF_Photo_Studio1_VAV_Damper			
9	nviUnit_Overrid			
10	nviUnit_Overrid1			
11	FF_Photo_Studio1_HTG_Valve			
12	nviControl_Selec			

Centraline Lynx terminal unit controllers

CLLY4024 First-Photo_Studio2 NID: 04 1d 35 ac 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_Photo_Studio2_Co2	346 ppm {ok}		
2	FF_Photo_Studio2_Temp	21.8 °C {ok}		
3	FF_Photo_Studio2_Temp_Clg_SP	23.0 °C {ok} @ 16		
4	FF_Photo_Studio2_Temp_Htg_SP	20.0 °C {ok} @ 16		
5	FF_Photo_Studio2_Co2_High_SP	1200 ppm {ok} @ def		
6	FF_Photo_Studio2_VAV_Mode	1.00 {ok}		
7	FF_Photo_Studio2_Cmd	Occupied {ok} @ 16		
8	FF_Photo_Studio2_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	FF_Photo_Studio2_HTG_Valve	Closed {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

CLLY4024 First_MA_Studio NID: 04 73 5e 07 04 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_MA_Studio_Co2	3 ppm {ok}		1
2	FF_MA_Studio_Temp	21.9 °C {ok}		
3	FF_MA_Studio_Temp_Clg_SP	24.0 °C {ok} @ 16		
4	FF_MA_Studio_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	FF_MA_Studio_Co2_High_SP	1200 ppm {ok} @ def		
6	FF_MA_Studio_VAV_Mode	1.00 {ok}		
7	FF_MA_Studio_VAV_Damper	20.0 % {ok}		
8	nviUnit_Overrid	0.00 {ok} @ 16		
9	nviUnit_Overrid1	0.00 {ok} @ 16		
10	FF_MA_Studio_HTG_Valve	Closed {ok}		
11	nviControl_Selec	0.00 {ok} @ def		
12	nviUnit_Enable	Occupied {ok} @ 16		

Centraline Lynx terminal unit controllers

CLLY4024 First_Digital_Print_Room NID: 04 2b 33 ac 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_Digital_Print_Co2	346 ppm {ok}		
2	FF_Digital_Print_Temp	20.6 °C {unackedAlarm}		
3	FF_Digital_Print_Temp_Clg_SP	25.0 °C {ok} @ 16		
4	FF_Digital_Print_Temp_Htg_SP	22.0 °C {ok} @ 16		
5	FF_Digital_Print_Co2_High_SP	1200 ppm {ok} @ def		
6	FF_Digital_Print_VAV_Mode	1.00 {ok}		
7	FF_Digital_Print_Cmd	Occupied {ok} @ 16		
8	FF_Digital_Print_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	FF_Digital_Print_HTG_Valve	Open {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

CLLY4024 First_Screen_Print_Room NID: 04 ab 5f ac 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	FF_Screen_Print_Co2	424 ppm {unackedAlarm}		
2	FF_Screen_Print_Temp	21.4 °C {unackedAlarm}		
3	FF_Screen_Print_Temp_Clg_SP	24.0 °C {ok} @ 16		
4	FF_Screen_Print_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	FF_Screen_Print_Co2_High_SP	1200 ppm {ok} @ def		
6	FF_Screen_Print_VAV_Mode	1.00 {ok}		
7	FF_Screen_Print_Print_Cmd	Occupied {ok} @ 16		
8	FF_Screen_Print_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	FF_Screen_Print_HTG_Valve	Open {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

Centraline Lynx terminal unit controllers

CLLY4024 Second_Breakout NID: 04 d4 fa e8 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_Breakout_Co2	351 ppm {unackedAlarm}		
2	SF_Breakout_Temp	23.1 °C {unackedAlarm}		
3	SF_Breakout_Temp_Clg_SP	24.0 °C {ok} @ 16		
4	SF_Breakout_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	SF_Breakout_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_Breakout_VAV_Mode	1.00 {ok}		
7	SF_Breakout_Cmd	Occupied {ok} @ 16		
8	SF_Breakout_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_Breakout_HTG_Valve	Closed {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

CLLY4024 Second_FMM_Staff_Office NID: 04 87 ff e7 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_FMM_Staff_Office_Co2	472 ppm {ok}		
2	SF_FMM_Staff_Office_Temp	23.0 °C {unackedAlarm}		
3	SF_FMM_Staff_Office_Temp_Clg_SP	24.0 °C {ok} @ 16		
4	SF_FMM_Staff_Office_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	SF_FMM_Staff_Office_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_FMM_Staff_Office_VAV_Mode	1.00 {ok}		
7	SF_FMM_Staff_Office_Cmd	Occupied {ok} @ 16		
8	SF_FMM_Staff_Office_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_FMM_Staff_Office_HTG_Valve	Closed {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

Centraline Lynx terminal unit controllers

CLLY4024 Second_FMM_Seminar NID: 04 52 57 06 04 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_FMM_Seminar_Co2	554 ppm {unackedAlarm}	**°C**	
2	SF_FMM_Seminar_Temp	20.3 °C {ok}		
3	SF_FMM_Seminar_Temp_Clg_SP	24.0 °C {ok} @ 16		
4	SF_FMM_Seminar_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	SF_FMM_Seminar_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_FMM_Seminar_VAV_Mode	1.00 {ok}		
7	SF_FMM_Seminar_Office_Cmd	Occupied {ok} @ 16		
8	SF_FMM_Seminar_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_FMM_Seminar_HTG_Valve	Open {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

CLLY4024 Second_FMM_IT NID: 04 49 5e 07 04 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_FMM_IT_Co2	445 ppm {ok}		1
2	SF_FMM_IT_Temp	14.8 °C {unackedAlarm}		1
3	SF_FMM_IT_Temp_Clg_SP	25.0 °C {ok} @ 16		
4	SF_FMM_IT_Temp_Htg_SP	22.0 °C {ok} @ 16		
5	SF_FMM_IT_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_FMM_IT_VAV_Mode	1.00 {ok}		
7	SF_FMM_IT_Office_Cmd	Occupied {ok} @ 16		
8	SF_FMM_IT_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_FMM_IT_HTG_Valve	Open {ok}		
12	nviControl_Selec	0.00 {ok} @ def		

Centraline Lynx terminal unit controllers

CLLY4024 Second_Cutting_Studio NID: 04 75 5c 07 04 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_Cutting_Studio_Co2	278 ppm {ok}		
2	SF_Cutting_Studio_Temp	22.5 °C {unackedAlarm}		
3	SF_Cutting_Studio_Temp_Clg_SP	24.5 °C {ok} @ 16		
4	SF_Cutting_Studio_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	SF_Cutting_Studio_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_Cutting_Studio_VAV_Mode	1.00 {ok}		
7	SF_Cutting_Studio_Office_Cmd	false {ok} @ 16		
8	SF_Cutting_Studio_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_Cutting_Studio_HTG_Valve	Closed {ok}		
12	nviControl_Selec	0.00 {ok} @ def		
13	SF_Cutting_Studio_Temp1	24.5 °C {ok} @ 10		

CLLY4024 Second_Sewing_Studio NID: 04 2c 33 ac 03 00				
Point	**Description**	**Status**	**Check/ Offset**	**Note**
1	SF_Sewing_Studio_Co2	370 ppm {ok}		
2	SF_Sewing_Studio_Temp	20.5 °C {unackedAlarm}		
3	SF_Sewing_Studio_Temp_Clg_SP	23.5 °C {ok} @ 16		
4	SF_Sewing_Studio_Temp_Htg_SP	21.0 °C {ok} @ 16		
5	SF_Sewing_Studio_Co2_High_SP	1200 ppm {ok} @ def		
6	SF_Sewing_Studio_VAV_Mode	1.00 {ok}		
7	SF_Sewing_Studio_Office_Cmd	false {ok} @ 16		
8	SF_Sewing_Studio_VAV_Damper	20.0 % {ok}		
9	nviUnit_Overrid	0.00 {ok} @ 16		
10	nviUnit_Overrid1	0.00 {ok} @ 16		
11	SF_Sewing_Studio_HTG_Valve	Open {ok}		
12	nviControl_Selec	0.00 {ok} @ def		
13	SF_Sewing_Studio_Temp1	23.5 °C {ok} @ 10		

Modbus Power Meter Points

LIFT				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2441.0 {ok}	decimal:4032	
2	P2V	2435.0 {ok}	decimal:4033	
3	P3V	2451.0 {ok}	decimal:4034	
4	P1A	42.0 {ok}	decimal:4019	
5	P2A	53.0 {ok}	decimal:4020	
6	P3A	44.0 {ok}	decimal:4021	
7	SKW	1.0 {ok}	decimal:4005	
8	SKVA	3.0 {ok}	decimal:4006	
9	SKVAR	65534.0 {ok}	decimal:4007	
10	SPF	2323.0 {ok}	decimal:4008	
11	SkWH	45812.0 {ok}	decimal:4000	

UPS				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2454.0 {ok}	decimal:4032	
2	P2V	2449.0 {ok}	decimal:4033	
3	P3V	2470.0 {ok}	decimal:4034	
4	P1A	0.0 {ok}	decimal:4019	1
5	P2A	0.0 {ok}	decimal:4020	1
6	P3A	0.0 {ok}	decimal:4021	1
7	SKW	0.0 {ok}	decimal:4005	1
8	SKVA	0.0 {ok}	decimal:4006	1
9	SKVAR	0.0 {ok}	decimal:4007	1
10	SPF	0.0 {ok}	decimal:4008	1
11	SkWH	0.0 {ok}	decimal:4000	1

Modbus Power Meter Points

MCC3				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2453.0 {ok}	decimal:4032	
2	P2V	2443.0 {ok}	decimal:4033	
3	P3V	2470.0 {ok}	decimal:4034	
4	P1A	1142.0 {ok}	decimal:4019	
5	P2A	1369.0 {ok}	decimal:4020	
6	P3A	1302.0 {ok}	decimal:4021	
7	SKW	92.0 {ok}	decimal:4005	
8	SKVA	92.0 {ok}	decimal:4006	
9	SKVAR	65531.0 {ok}	decimal:4007	
10	SPF	9980.0 {ok}	decimal:4008	
11	SkWH	20305.0 {ok}	decimal:4000	

DB1_2				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2454.0 {ok}	decimal:4032	
2	P2V	2448.0 {ok}	decimal:4033	
3	P3V	2473.0 {ok}	decimal:4034	
4	P1A	0.0 {ok}	decimal:4019	
5	P2A	0.0 {ok}	decimal:4020	
6	P3A	0.0 {ok}	decimal:4021	
7	SKW	0.0 {ok}	decimal:4005	
8	SKVA	0.0 {ok}	decimal:4006	
9	SKVAR	0.0 {ok}	decimal:4007	
10	SPF	0.0 {ok}	decimal:4008	
11	SkWH	36912.0 {ok}	decimal:4000	

Modbus Power Meter Points

DB1_1				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2455.0 {ok}	decimal:4032	
2	P2V	2448.0 {ok}	decimal:4033	
3	P3V	2472.0 {ok}	decimal:4034	
4	P1A	1927.0 {ok}	decimal:4019	
5	P2A	1624.0 {ok}	decimal:4020	
6	P3A	2889.0 {ok}	decimal:4021	
7	SKW	157.0 {ok}	decimal:4005	
8	SKVA	157.0 {ok}	decimal:4006	
9	SKVAR	65521.0 {ok}	decimal:4007	
10	SPF	9948.0 {ok}	decimal:4008	
11	SkWH	53890.0 {ok}	decimal:4000	

DBR_1				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2453.0 {ok}	decimal:4032	
2	P2V	2447.0 {ok}	decimal:4033	
3	P3V	2470.0 {ok}	decimal:4034	
4	P1A	2649.0 {ok}	decimal:4019	
5	P2A	2721.0 {ok}	decimal:4020	
6	P3A	2934.0 {ok}	decimal:4021	
7	SKW	171.0 {ok}	decimal:4005	
8	SKVA	204.0 {ok}	decimal:4006	
9	SKVAR	111.0 {ok}	decimal:4007	
10	SPF	8388.0 {ok}	decimal:4008	
11	SkWH	53162734 {ok}	decimal:4000	1

Modbus Power Meter Points

DB2_1				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2454.0 {ok}	decimal:4032	
2	P2V	2447.0 {ok}	decimal:4033	
3	P3V	2471.0 {ok}	decimal:4034	
4	P1A	1487.0 {ok}	decimal:4019	
5	P2A	1258.0 {ok}	decimal:4020	
6	P3A	1223.0 {ok}	decimal:4021	
7	SKW	92.0 {ok}	decimal:4005	
8	SKVA	97.0 {ok}	decimal:4006	
9	SKVAR	65506.0 {ok}	decimal:4007	
10	SPF	9490.0 {ok}	decimal:4008	
11	SkWH	1007.0 {ok}	decimal:4000	

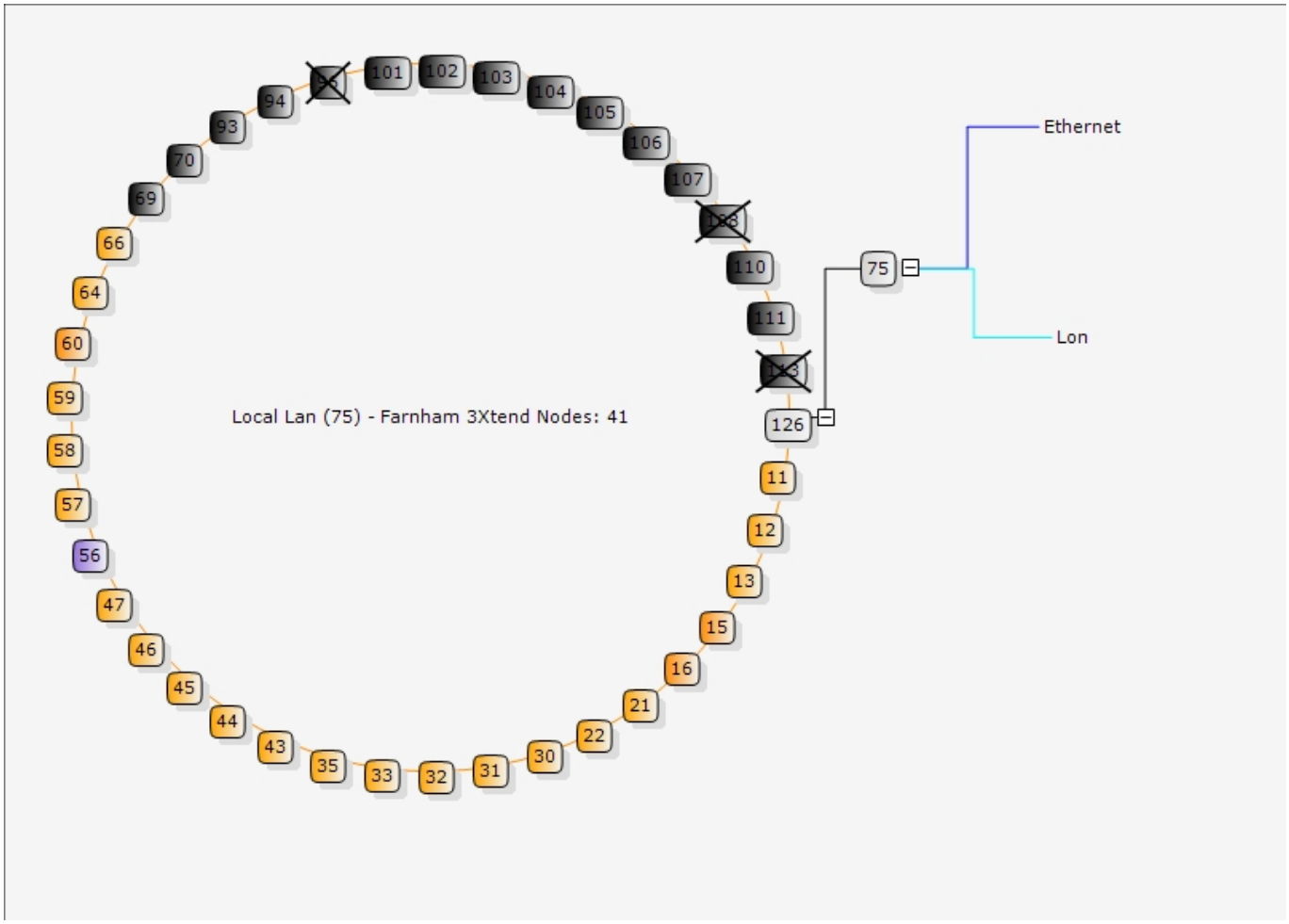
DBG_1				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2455.0 {ok}	decimal:4032	
2	P2V	2450.0 {ok}	decimal:4033	
3	P3V	2471.0 {ok}	decimal:4034	
4	P1A	1688.0 {ok}	decimal:4019	
5	P2A	1337.0 {ok}	decimal:4020	
6	P3A	907.0 {ok}	decimal:4021	
7	SKW	91.0 {ok}	decimal:4005	
8	SKVA	96.0 {ok}	decimal:4006	
9	SKVAR	65507.0 {ok}	decimal:4007	
10	SPF	9485.0 {ok}	decimal:4008	
11	SkWH	12964.0 {ok}	decimal:4000	

Modbus Power Meter Points

DBG_2				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2453.0 {ok}	decimal:4032	
2	P2V	2447.0 {ok}	decimal:4033	
3	P3V	2470.0 {ok}	decimal:4034	
4	P1A	578.0 {ok}	decimal:4019	
5	P2A	102.0 {ok}	decimal:4020	
6	P3A	164.0 {ok}	decimal:4021	
7	SKW	17.0 {ok}	decimal:4005	
8	SKVA	18.0 {ok}	decimal:4006	
9	SKVAR	6.0 {ok}	decimal:4007	
10	SPF	9415.0 {ok}	decimal:4008	
11	SkWH	12901.0 {ok}	decimal:4000	

DBG_3				
Point	**Description**	**Status**	**Address**	**Note**
1	P1V	2453.0 {ok}	decimal:4032	
2	P2V	2447.0 {ok}	decimal:4033	
3	P3V	2468.0 {ok}	decimal:4034	
4	P1A	783.0 {ok}	decimal:4019	
5	P2A	782.0 {ok}	decimal:4020	
6	P3A	812.0 {ok}	decimal:4021	
7	SKW	56.0 {ok}	decimal:4005	
8	SKVA	58.0 {ok}	decimal:4006	
9	SKVAR	16.0 {ok}	decimal:4007	
10	SPF	9594.0 {ok}	decimal:4008	
11	SkWH	58264.0 {ok}	decimal:4000	

Trend system Information



Trend Outstation - Service Check List

SITE:	**UCA Farnham**				
Add LAN:	**015 075**	**Outstation: IP Addr: SN Mask:**	**IQ 3xcite/96 v2.34 Lan Card**	**Location:**	**Main Boiler Rm CP1**

Wiring Point	Point N°	Description	Value	Units/ Req	Offset / Source	Operating Dev/Check	Note
		Main Processor– IQ3xcite/96	**State**	**Req**	**Alarm**		
1	S1	Outdoor Temp	10.74	°C	0		
2	S2	Boilers Comm Flow Temp	77.56	°C	0	✓	
3	S3	Boilers Comm Return Temp	65.84	°C	0	✓	
4	S4	Dhws Comm Flow Temp	71.79	°C	0	✓	
5	S5	Dhws Comm Return Temp	67.68	°C	0	✓	
6	S6	Reception Area FCU Room Temp	18.79	°C	0		3
7	S7	FCU 4 Room Temp	17.48	°C	0		3
8	S8	WAC R18 Room Temp	12.57	°C	0		3
9	S9	WAC R14 Room Temp	17.99	°C	0		3
10	S10	WAC P1 Room Temp	-44.5	°C	0		3
11	D1	Boiler No.1 Signal	100		F26D	✓	
12	D2	Boiler No.2 Signal	100		F28D	✓	
13	D3	Boiler No.3 Signal	100		F24D	✓	
14	D4	Boiler No.4 Signal	100		F31D	✓	
15	D5	Boiler No.5 Signal	100		F38D	✓	
16	D6	Boiler No.6 Signal	100		F40D	✓	
		IO Board Addr no. 1 – 8DI/8TI	**State**	**Req**	**Alarm**		
1-1	I1	Building Fire Alarm	O	O	O	✓	1
1-2	I2	Htg Blr 1 Modules Com Flt	O	O	O	✓	2
1-3	I3	Htg Blr 2 Modules Com Flt	O	O	O	✓	2
1-4	I4	Heating Pumps Flow Prove	I	I	O	✓	2
1-5	I5	LPHW Press Unit Fault	O	O	O	✓	2
1-6	I6	Side Stream Filter Unit Fault	O	O	O	✓	2
1-7	I7	Dhw Blr Modules Com Flt	I	O	I	✓	2*
1-8	I8	Dhw Prim Pumps Flow Prove	I	I	O	✓	
1-9	S11	WAC P1 Room Temp	19.91	°C	0		3
1-10	S12	WAC P34 Room Temp	19.89	°C	0		3
1-11	S13	WAC W53 Room Temp	16.4	°C	0		3
1-12	S14	WAC P28 Room Temp	15.99	°C	0		3
1-13	S15	ZV1 Radiant Pnl Space Temp	20.76	°C	0		3
1-14	S16	ZV2 Radiant Pnl Space Temp	20.47	°C	0		3
1-15	S17	ZV3 Radiant Pnl Space Temp	19.5	°C	0		3
1-16	S18	ZV4 Radiant Pnl Space Temp	18.03	°C	0		3

Wiring Point	Point N°	Description	Value	Units/ Req	Offset / Source	Operating Dev/Check	Note
		IO Board Addr no. 2 – 8 DI/8TI	State	Req	Alarm		
2-1	I9	DHW Press Unit Fault	O	O	O	✓	2
2-2	I10	CW Booster Set Fault	O	O	O	✓	2
2-3	I11	Sen Lec Rm Plant Extend	O	O	O	✓	2
2-4	I12	Heating Secondary Gas Meter	O	O	O	Disconnected	2
2-5	I13	Dhw Secondary Gas Meter	O	O	O	✓	2
2-6	I14	LPHW Press Unit Water Meter	O	O	O	✓	2
2-7	I15	DHW Press Unit Water Meter	O	O	O	✓	2
2-8	I16	Spare					
2-9	S19	ZV5 Radiant Pnl Space Temp	16.91	°C	0		3
2-10	S20	ZV6 Radiant Pnl Space Temp	20.51	°C	0		3
2-11	S21	ZV7 Radiant Pnl Space Temp	18.11	°C	0		3
2-12	S22	ZV8 Radiant Pnl Space Temp	22.32	°C	0		3
2-13	S23	ZV9 Radiant Pnl Space Temp	22.57	°C	0		3
2-14	S24	ZV10 Radiant Pnl Space Temp	18.75	°C	0		3
2-15	S25	ZV11 Radiant Pnl Space Temp	18.39	°C	0		3
2-16	S26	ZV12 Radiant Pnl Space Temp	19.16	°C	0		3
		IO Board Addr no. 3 – 8UI					
3-1	S27	ZV13 Radiant Pnl Space Temp	17.71	°C	0		3
3-2	S28	ZV14 Radiant Pnl Space Temp	17.62	°C	0		3
3-3	S29	ZV15 Radiant Pnl Space Temp	17.62	°C	0		3
3-4	S30	ZV16 Radiant Pnl Space Temp	17.72	°C	0		3
3-5	S31	ZV17 Radiant Pnl Space Temp	15.13	°C	0		3
3-6	S32	ZV18 Radiant Pnl Space Temp	17.55	°C	0		3
3-7	S33	ZV19 Radiant Pnl Space Temp	17.64	°C	0		3
3-8	S34	ZV20 Radiant Pnl Space Temp	18.96	°C	0		3
		IO Board Addr no. 4 – 8UI					
4-1	S35	ZV21 Radiant Pnl Space Temp	15.95	°C	0		3
4-2	S36	ZV22 Radiant Pnl Space Temp	17.28	°C	0		3
4-3	S37	ZV23 Radiant Pnl Space Temp	18.88	°C	0		3
4-4	S38	ZV24 Radiant Pnl Space Temp	20.04	°C	0		3
4-5	S39	ZV25E Radiant Pnl Space Temp	20.65	°C	0		3
4-6	S40	ZV26E Radiant Pnl Space Temp	21	°C	0		3
4-7	S41	MAIN BLD SPACE TEMP	23.7	°C	0		3
4-8	S42	Spare					

		IO Board Addr no. 5 – 4UI/4AO					
5-1	S43	Spare					
5-2	S44	Spare					
5-3	S45	Spare					
5-4	S46	Spare					
5-5	D7	Boiler No.5 Signal	100		F44D	✓	
5-6	D8	Boiler No.6 Signal	100		F46D	✓	
5-7	D9	Dhw Boiler No.1 Signal	74.79		F54D	✓	
5-8	D10	Dhw Boiler No.2 Signal	0		F56D	✓	
		IO Board Addr no. 6 – 8AO					
6-1	D11	Dhw Boiler No.3 Signal	0		F60D	✓	
6-2	D12	Dhw Boiler No.4 Signal	100		F62D	✓	
6-3	D13	Reception FCU Heating Valve	100		L3D		4
6-4	D14	Gallery Stor FCU Heating Valve	78.57		L4D		4
6-5	D15	WAC R18 Heating Valve	100		L5D		4
6-6	D16	WAC R14 Heating Valve	32.84		L6D		4
6-7	D17	WAC P1 Heating Valve	0		L7D		4
6-8	D18	WAC P1 Heating Valve	0		L7D		4
		IO Board Addr no. 7 – 8AO					
7-1	D19	WAC P34 Heating Valve	0		L8D		4
7-2	D20	WAC W53 Heating Valve	100		L9D		4
7-3	D21	WAC P28 Heating Valve	100		L10D		4
7-4	D23	Rad Pnl ZV1 Heating Valve	100		F67D		4
7-5	D24	Rad Pnl ZV2 Heating Valve	100		F69D		4
7-6	D25	Rad Pnl ZV3 Heating Valve	0		F71D		4
7-7	D26	Rad Pnl ZV4 Heating Valve	0		F74D		4
7-8	D27	Rad Pnl ZV5 Heating Valve	100		F76D		4
		IO Board Addr no. 8 – 8AO					
8-1	D28	Rad Pnl ZV6 Heating Valve	100		F78D		4
8-2	D29	Rad Pnl ZV7 Heating Valve	100		F80D		4
8-3	D30	Rad Pnl ZV8 Heating Valve	0		F82D		4
8-4	D31	Rad Pnl ZV9 Heating Valve	0		F84D		4
8-5	D32	Rad Pnl ZV10 Heating Valve	100		F86D		4
8-6	D33	Rad Pnl ZV11 Heating Valve	100		F88D		4
8-7	D34	Rad Pnl ZV12 Heating Valve	0		F90D		4
8-8	D35	Rad Pnl ZV13 Heating Valve	0		F92D		4

		IO Board Addr no. 9 – 8AO					
9-1	D36	Rad Pnl ZV14 Heating Valve	100		F94D		4
9-2	D37	Rad Pnl ZV15 Heating Valve	100		F96D		4
9-3	D38	Rad Pnl ZV16 Heating Valve	100		F98D		4
9-4	D39	Rad Pnl ZV17 Heating Valve	100		F100D		4
9-5	D40	Rad Pnl ZV18 Heating Valve	100		F102D		4
9-6	D41	Rad Pnl ZV19 Heating Valve	100		F104D		4
9-7	D42	Rad Pnl ZV20 Heating Valve	100		F106D		4
9-8	D43	Rad Pnl ZV21 Heating Valve	100		F108D		4
		IO Board Addr no. 10 – 8AO					
10-1	D45	Rad Pnl ZV22 Heating Valve	100		F110D		4
10-2	D46	Rad Pnl ZV23 Heating Valve	100		F112D		4
10-3	D47	Rad Pnl ZV24 Heating Valve	0		F115D		4
10-4	D48	Rad Pnl ZV25E Heating Valve	0		F117D		4
10-5	D49	Rad Pnl ZV26E Heating Valve	0		F119D		4
10-6							
10-7							
10-8							
		IO Board Addr no. 11 – 8DO					
11-1	D53	Boiler 1 Modules Enable	I		G54D		✓
11-2	D54	Boiler 2 Modules Enable	I		G54D		✓
11-3	D55	Heating Pump 1	I		G30D		✓
11-4	D56	Heating Pump 2	O		G31D		✓
11-5	D57	Dhw Boiler 1 Modules Enable	I		G62D		✓
11-6	D58	DHW Prim Pump 1	O		G41D		✓
11-7	D59	DHW Prim Pump 2	I		G42D		✓
11-8	D60	Reception FCU Enable	I		G63D		✓
		IO Board Addr no. 12 – 8DO					
12-1	D61	Gallery Store FCU Enable	I		G53D		4
12-2	D62	WAC R18 Enable	I		G90D		4
12-3	D63	WAC R14 Enable	I		G91D		4
12-4	D64	WAC P1 Enable	I		G92D		4
12-5	D65	WAC P1 Enable	I		G92D		4
12-6	D66	WAC P34 Enable	I		G93D		4
12-7	D67	WAC W53 Enable	I		G94D		4
12-8	D68	WAC P28 Enable	I		G95D		4

Knob N°	Description/Label	Value	Units
K1	PumpContinueSetpoint	60	°C
K2	AirFrostSetpoint	3	°C
K3	Day of the Week	3	Day
K4	Weekly C-o Time	12	Hrs
K5	Red Zone Extend Time	2	Hrs
K6	Red Zone Opt Space Stpt	20	°C
K7	Yellow Zone Extend Time	2	Hrs
K8	Yellow Zone Opt Space Stpt	20	°C
K9	White Zone Extend Time	2	Hrs
K10	White Zone Opt Space Stpt	20	°C
K11	Boiler1Priority	2	
K12	Boiler2Priority	3	
K13	Boiler3Priority	4	
K14	Boiler4Priority	5	
K15	Boiler5Priority	6	
K16	Boiler6Priority	7	
K17	Boiler7Priority	8	
K18	Boiler8Priority	1	
K19	Boiler Return SP	80	°C
K20	DhwBoiler1Priority	2	
K21	DhwBoiler2Priority	3	
K22	DhwBoiler3Priority	4	
K23	DhwBoiler4Priority	1	
K24	Dhw Boiler Flow SP	72	°C
K25	Reception FCU Stpt	20	°C
K26	Reception Frost Stpt	8	°C
K27	Reception FCU Stpt	18	°C
K28	Gallery Store Frost Stpt	12	°C
K29	WAC R18 Stpt	18	°C
K30	WAC R14 Stpt	18	°C
K31	WAC P1 Stpt	18	°C
K32	WAC P34 Stpt	18	°C
K33	WAC W53 Stpt	18	°C
K34	WAC P28 Stpt	18	°C
K35	Rad Pnl ZV1 Stpt	20	°C
K36	Rad Pnl ZV2 Stpt	20	°C
K37	Rad Pnl ZV3 Stpt	19	°C
K38	Rad Pnl ZV4 Stpt	18	°C
K39	Rad Pnl ZV5 Stpt	17.8	°C
K40	Rad Pnl ZV3 Stpt	20	°C
K41	Rad Pnl ZV7 Stpt	20	°C
K42	Rad Pnl ZV8 Stpt	20	°C
K43	Rad Pnl ZV9 Stpt	20	°C
K44	Rad Pnl ZV10 Stpt	19	°C
K45	Rad Pnl ZV11 Stpt	18	°C
K46	Rad Pnl ZV12 Stpt	18	°C
K47	Rad Pnl ZV13 Stpt	18	°C

K48	Rad Pnl ZV14 Stpt	18	˚C
K49	Rad Pnl ZV15 Stpt	18	˚C
K50	Rad Pnl ZV16 Stpt	18	˚C
K51	Rad Pnl ZV17 Stpt	18	˚C
K52	Rad Pnl ZV18 Stpt	18	˚C
K53	Rad Pnl ZV19 Stpt	18	˚C
K54	Rad Pnl ZV20 Stpt	20	˚C
K55	Rad Pnl ZV21 Stpt	16	˚C
K56	Rad Pnl ZV22 Stpt	18	˚C
K57	Rad Pnl ZV23 Stpt	22	˚C
K58	Rad Pnl ZV24 Stpt	20	˚C
K59	Rad Pnl ZV25E Stpt	19	˚C
K60	Rad Pnl ZV26E Stpt	19	˚C
K61	WAC R18 Frost Stpt	8	˚C
K62	WAC R14 Frost Stpt	8	˚C
K63	WAC P1 Frost Stpt	8	˚C
K64	WAC P34 Frost Stpt	8	˚C
K65	WAC W53 Frost Stpt	8	˚C
K66	WAC P28 Frost Stpt	8	˚C
K67	Exisitng DHW Extend Time	2	Hrs
K68	DHW Boiler High Limit	95	˚C
K69	Summer Hold Off Setpoint	26	˚C

Switch N°	Description/Label	Status
W1	Red Zone Extend	O
W2	Yellow Zone Extend	O
W3	White Zone Extend	O
W4	Heating Pump Fail Reset	O
W5	Heating Pump Duty	O
W6	DHW Prim Pump Fail Reset	O
W7	DHW Prim Pump Duty	I
W8	Boiler Rotate Daily	O
W9	Enable Boiler Control	I
W10	Dhw Boiler Rotate Daily	O
W11	Enable Dhw Boiler Control	I
W12	963 Alarms Enable	O
W13	Exist Dhw Plant Extend	O
W14	Rotate Boilers Now	O
W15	Rotate LPHW Boilers Now	O

Zone	Day	Label	Start	Stop
Z1	Mon	Red Zone	08:00	18:00
Z1	Tues	Red Zone	08:00	18:00
Z1	Wed	Red Zone	08:00	18:00
Z1	Thurs	Red Zone	08:00	18:00
Z1	Fri	Red Zone	08:00	18:00
Z1	Sat	Red Zone	Off	Off
Z1	Sun	Red Zone	Off	Off

Zone	Day	Label	Start	Stop
Z2	Mon	Green Zone	08:00	18:00
Z2	Tues	Green Zone	08:00	18:00
Z2	Wed	Green Zone	08:00	18:00
Z2	Thurs	Green Zone	08:00	18:00
Z2	Fri	Green Zone	08:00	18:00
Z2	Sat	Green Zone	12:00	14:00
Z2	Sun	Green Zone	Off	Off

Zone	Day	Label	Start	Stop
Z3	Mon	White Zone	08:30	17:30
Z3	Tues	White Zone	08:30	17:30
Z3	Wed	White Zone	08:30	17:30
Z3	Thurs	White Zone	08:30	17:30
Z3	Fri	White Zone	08:30	17:30
Z3	Sat	White Zone	Off	Off
Z3	Sun	White Zone	Off	Off

Zone	Day	Label	Start	Stop
Z4	Mon	Existing DHW Times	00:00	24:00
Z4	Tues	Existing DHW Times	00:00	24:00
Z4	Wed	Existing DHW Times	00:00	24:00
Z4	Thurs	Existing DHW Times	00:00	24:00
Z4	Fri	Existing DHW Times	00:00	18:00
Z4	Sat	Existing DHW Times	00:00	18:00
Z4	Sun	Existing DHW Times	00:00	18:00

These were the time zones as off October 2013.

Time Zones	
Label	**Switch Times**
Z1 Red Zone	06:00 to 17:00hrs Mon
Z1 Red Zone	08:00 to 17:00hrs Tues. to Fri
Z2 Green Zone	06:00 to 17:00hrs Mon
Z2 Green Zone	08:00 to 17:00hrs Tues. to Fri
Z3 White Zone	06:00 to 17:00hrs Mon
Z3 White Zone	08:00 to 17:00hrs Tues. to Sat
Z4 Existing DHW Times	05:00 to 18:00hrs Mon to Fri

2* This is shown on the BMS as a common fault, but at the MCCP the unit which has gone into fault is indicated at the alarm red lamp.

Trend Outstation - Service Check List					
SITE:	**UCA Farnham**				
Add LAN:	**016 075**	**Outstation: IP Addr: SN Mask:**	**IQ 3xcite/96 v2.34 Lan Card**	**Location:**	**Main Boiler House CP1**

Wiring Point	**Point N°**	Description	**Value**	**Units/ Req**	**Offset / Source**	Operating **Dev/Check**	**Note**
		Main Processor– IQ3xcite/96	**State**	**Req**	**Alarm**		
1	S1	Roof CW Tank 5 Temp"	-53.01			No field connection	1
2	S2	Roof CW Tank 6 Temp"	-53.01			No field connection	1
3	I1	Tank 1 Transfer Pump 1 Sts"	O	O	O	√	
4	I2	Tank 1 Transfer Pump 2 Sts"	O	O	O	√	
5	I3	Tank 2 Transfer Pump 1 Sts"	O	O	O	√	
6	I4	Tank 2 Transfer Pump 2 Sts"	O	O	O	√	
7	I5	Tank 5 Low Level"	O	O	O	√	
8	I6	Tank 5 High Level"	O	O	O	√	
9	I7	Tank 6 Low Level"	O	O	O	√	
10	I8	Tank 6 High Level"	I	O	O		
11	D1	Tank 1 Transfer Pump 1"	O		G11D	√	
12	D2	Tank 1 Transfer Pump 2"	O		G12D	√	
13	D3	Tank 2 Transfer Pump 1"	O		G23D	√	
14	D4	Tank 2 Transfer Pump 2"	O		G24D	√	
15	D5	DHW Sec Pump"	I		G5D	√	
16	D6	DHW Calorifier Valve"	0		L1D	√	
		IO Board Addr no. 1 – 8UI					
1-1	S3	Dhw Imm Temp"	-53.0			No field connection	1
1-2	I9	Dhw Sec Pump Sts"	I	O	O		
1-3	I10	Dhw High Limit Stat"	I	O	I		2
1-4		Spare					
1-5	I11	Red Zone Heat Meter"	O	O	O	√	
1-6	I12	Yell Zone Heat Meter"	O	O	O	√	
1-7	I13	White Zone Heat Meter"	O	O	O	√	
1-8		Spare					

Switch N°	**Description/Label**	**Status**
W1	963 Alarms Enable"	I
W2	Tank 1 Transfe Pump Fail Reset"	O
W3	Tank 1 Transfer Pump Duty"	I
W4	Tank 2 Transfe Pump Fail Reset"	O
W5	Tank 2 Transfer Pump Duty"	I
Knob N*	**Description/Label**	**Status**
K2	DHW Cal Temp Stpt	65

Zone	Day	Label	Start	Stop
Z1	Mon	Heating Time Zone	08:30	17:30
Z1	Tues	Heating Time Zone	08:30	17:30
Z1	Wed	Heating Time Zone	08:30	17:30
Z1	Thurs	Heating Time Zone	08:30	17:30
Z1	Fri	Heating Time Zone	08:30	17:30
Z1	Sat	Heating Time Zone	Off	Off
Z1	Sun	Heating Time Zone	Off	Off

Zone	Day	Label	Start	Stop
Z2	Mon	Hws Time Zone	08:30	17:30
Z2	Tues	Hws Time Zone	08:30	17:30
Z2	Wed	Hws Time Zone	08:30	17:30
Z2	Thurs	Hws Time Zone	08:30	17:30
Z2	Fri	Hws Time Zone	08:30	17:30
Z2	Sat	Hws Time Zone	Off	Off
Z2	Sun	Hws Time Zone	Off	Off

Trend Outstation - Maintenance Check List

SITE:					
Address: **LAN:**	35 0	**Outstation:** **Type:**	**IQ 241** **Iss.**	**Location:**	Boiler House (Opposite caretaker's office) Green Zone Htg

Inputs

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Operating Device/ Check	Note
C1	I1	HTG Pumps Flow DPS	I	I	O	√	
C2	I2	Gas Booster Fault	O	O	O		1
C3	I3	Gas Valve Closed	O	O	O	√	
C4	I4	HWS Pump Tripped	O	O	O		1
C5	I5	Pressure Unit Fault	O	O	O		1
C6	I6	Boiler Lockout	O	O	O		1
C7	I7	CW Circ Pump Tripped	O	O	O		1
C8	I8	CW Lift Pump1 Trip	O	O	O		1
C9	I9	CW Lift Pump2 Trip	O	O	O		1
C10	I10	CW Tank 3 Level SW	O	O	O	√	
C11	I11	Water Meter	O	O	O		2
C12	I12	Gas Meter	I	I	O		2
C13	S1	HWS Flow Temp	62.24	°C	2.10	√	
C14	S2	Outside Air Temp	10.85	°C	0.00	√	
C15	S3	CWS Tank 3 Temp	13.03	°C	-0.20	√	
C16	S4	VT Flow Temp	56.57	°C	0.00	√	
C17	S5	Ground Floor Space	21.82	°C	1.00		3
C18	S6	1st Floor Space	18.74	°C	1.00		3
C19	S7	Cold Water Temp No1	14.22	°C	0.00	√	

C20	S8	Cold Water Temp No2	14.47	°C	0.00	√	
C21	S9	LTHW Flow Temp	64.29	°C	-1.30	√	
C22	S10	LTHW Return Temp	51.25	°C	0.80	√	
C23							
C24							
C25	S13	Dix	0				
C26							
C27							
C28	I28	Cinema Frost Stat	O	O	O		
C29	S17	Cinema Supply Temp	20.57	°C	-1.00		

Wiring Point	**Point N°**	**Description Outputs**	**Output Value**	**Software Source**	Operation Device/ **Check**	**Note**
C40	D1	HEATING PUMP 1	100	118	√	
C39	D2	HEATING PUMP 2	O	119	√	
C38	D3	HWS/COLD CIRC.PUMPS	100	122	√	
C37	D4	BOILER ENABLE	100	102	√	
C36	D5	COLD WATER LIFT P1	O	25.0	√	
C35	D6	COLD WATER LIFT P2	O	25.1	√	
C34	D7	MIXING VALVE	36.03	130	√	

Knob N°	**Description/Label <u>Set-points.</u>**	**Value**	**Units**
K1	Room Temp SP	18	°C
K2	Frost Stage 1	2	°C
K3	Frost Stage 2	10	°C
K4	Frost Stage 3	12	°C
K5	HWS Flow SP	60	°C
K6	Max VT Flow Temp	80	°C
K7	Min VT Flow Temp	20	
K8	VT Slope Adjust	-1.5	
K9	Fixed VT Flow SP	50	°C
K10	Max VT Flow Temp	80	°C
K11	Knob 11	58	

Switch N°	Description/Label	**Status**
W1	HTG Pumps Manual ON	I
W2	HTG Pumps Manual OFF	O
W3	HTG Duty Pump 0=P1	I
W4	HTG Pump 1 Enable	I
W5	HTG Pump 2 Enable	O
W6	HWS Pump Manual OFF	O
W7	Lift Duty Pump 0=P1	I
W8	Lift Pump 1 Enable	I
W9	Lift Pump 2 Enable	I
W10	Fixed VT SP Switch	O

Zone	Day	Label	Start	Stop
Z1	Mon	HEATING TIME ZONE	08:00	18:00
Z1	Tues	HEATING TIME ZONE	08:00	18:00
Z1	Wed	HEATING TIME ZONE	08:00	18:00
Z1	Thurs	HEATING TIME ZONE	08:00	18:00
Z1	Fri	HEATING TIME ZONE	08:00	18:00
Z1	Sat	HEATING TIME ZONE	Off	Off
Z1	Sun	HEATING TIME ZONE	Off	Off

Zone	Day	Label	Start	Stop
Z2	Mon	HWS TIME ZONE	08:00	17:30
Z2	Tues	HWS TIME ZONE	08:00	17:30
Z2	Wed	HWS TIME ZONE	08:00	17:30
Z2	Thurs	HWS TIME ZONE	08:00	17:30
Z2	Fri	HWS TIME ZONE	08:00	17:30
Z2	Sat	HWS TIME ZONE	Off	Off
Z2	Sun	HWS TIME ZONE	Off	Off

Zone	Day	Label	Start	Stop
Z3	Mon	HWS-CIRC PUMPS TIMES	08:30	18:30
Z3	Tues	HWS-CIRC PUMPS TIMES	08:30	18:30
Z3	Wed	HWS-CIRC PUMPS TIMES	08:30	18:30
Z3	Thurs	HWS-CIRC PUMPS TIMES	08:30	18:30
Z3	Fri	HWS-CIRC PUMPS TIMES	08:30	18:30
Z3	Sat	HWS-CIRC PUMPS TIMES	Off	Off
Z3	Sun	HWS-CIRC PUMPS TIMES	Off	Off

4DIM							
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset Setting**	**Operating Device/ Check**	**Notes**
S13			0				
	I35	CWS Tank 3 Low Level					?
	I36	CWS Tank 3 High Level					√
	I37	Chem Tank 1 High Level					?
	I38	Chem Tank 2 High Level					√

1.

Trend Outstation - Maintenance Check List

Site:	UCA Farnham						
Address: LAN:	**57 075**	**Outstation: Type:**	IQ 231 Iss.3.12	**Location:**	John Luard Boiler Rm (HWS)		

Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset**	**Operating Device**	**Note**
A1	S1	OAT	12	°C	0	√	
A2	S2	Internal Space Temp	24.85	°C	0		1
A3	S3	VT Flow Temp	72.22	°C	0	√	
A4	S4	Spare					
A5	S5	HWS Sec Flow Temp	56.01	°C	0	√	
A6	I6						
A7	S7						
A8							
A9	I9						
A10	I10						
A11	I11						
A12	I12						
A13	I13						
A14	I14						
A15	I15						
A16	I16						
A17	I17						
A18	S18						
A19	S19						
A20	S20						
B1	D1	HWS Primary Pump 1	I		23.1	√	
B2	D2	HWS Generator Enable	I		21.2	√	
B3	D3						
B4	D4						
B5	D5						
B6	D6						
B7	D7	WC Extract Fans	I		22.1	√	
B8	D8						
B9	D9						
B10	D10						
B11	D11						
B12	D12						

Knob N°	Description/Label Set-points.	Value	Units
K1	Stage 1 Frost Spt	3	DegC
K2	Stage 2 Frost Spt	12	DegC

Switch N°	Description/Label	Status
W2	WC Vent Fans Manual	O
W3	WC Vent Fans Inhibit	O

Zone	Day	Label	Start	Stop
Z1	Mon	Not Used		
Z1	Tues	Not Used		
Z1	Wed	Not Used		
Z1	Thurs	Not Used		
Z1	Fri	Not Used		
Z1	Sat	Not Used		
Z1	Sun	Not Used		

Zone	Day	Label	Start	Stop
Z2	Mon	Not Used		
Z2	Tues	Not Used		
Z2	Wed	Not Used		
Z2	Thurs	Not Used		
Z2	Fri	Not Used		
Z2	Sat	Not Used		
Z2	Sun	Not Used		

Zone	Day	Label	Start	Stop
Z3	Mon	Not Used		
Z3	Tues	Not Used		
Z3	Wed	Not Used		
Z3	Thurs	Not Used		
Z3	Fri	Not Used		
Z3	Sat	Not Used		
Z3	Sun	Not Used		

Trend Outstations - Maintenance Check List

SITE:	UCA Farnham				
Address:	56	**Outstation:**	**IQ 422**	**LOCATION:**	John Luard Blr Rm Boilers
LAN:	075	**Type:**	**Iss.3.10**		

Wiring Point	Point N°	12 Description	Value	Units	Source Offset Setting	Device/ Check	Notes
1-In1	I1	Pri LTHW Pumps Common	O	O	O	✓	
2-In2	S1	Boiler Common Flow Temp	72.67	°C	0	✓	
3-In3	S2	VT Circuit Return Temp	64.35	°C	0	✓	
4-In4	I2	Safety Circuit Status	I	I	I	✓	
5-In5	I3	PU Fault	O	O	O	✓	
6-In6	S3	IO DIM6	6.1		0	✓	
7-L1	D1	LTHW Primary Pumps 2RM	100		F2D	✓	
8-L2	D2	Boiler 1 Set point	85		F12D	✓	
9-L3	D3	Boiler 1 Enable	O		G45D	✓	
10-L4	D4	Heating Isolation Vlv	I		G43D	✓	
11-L5	D5	Boiler 2 Enable	O		G46D	✓	
12-L6	D7	Boiler 2 Set point	85		F12D	✓	

6DIM							
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset Setting**	**Operating Device/ Check**	**Notes**
S3			6.1				
	I9	LTHW Pri Pump 2 Run				√	
	I5	HWS Generator Fault				√	
	I6	Boiler 1 Fault				√	
	I7	Boiler 2 Fault				√	
	I8	LTHW Pri Pump 1 Run				√	
	I4	Spare				√	

Knob N°	**Description/Label <u>Set-points.</u>**	**Value**	**Units**
K1	Summer Mode Setpoint	14	°C
K2	HWS Setback Temp Spt	65	
K3	Max VT Flow Setpoint	85	°C
K4	Min VT Flow Setpoint	70	°C
K5	Plant Run-On Period	15	Mins
K6	Max LTHW Flow Temp	85	°C

Switch N°	Description/Label	**Status**
W1	Boiler 24 Hour Run	O
W2	Rotate Primary Pumps	O
W3	Reset Primary Htg Pumps	O
W4	Rotate Boilers	O
W5	Reset HWS Pri Pump	O
W6	Isolation Vlv Override	O

Zone	**Day**	**Label**	**Start**	**Stop**
Z1	Mon	Heating Occupation	08:30	18:00
Z1	Tues	Heating Occupation	08:30	18:00
Z1	Wed	Heating Occupation	08:30	18:00
Z1	Thurs	Heating Occupation	08:30	18:00
Z1	Fri	Heating Occupation	08:30	18:00
Z1	Sat	Heating Occupation	Off	Off
Z1	Sun	Heating Occupation	Off	Off

Zone	Day	Label	Start	Stop
Z2	Mon	HWS Occupation	05:00	20:00
Z2	Tues	HWS Occupation	08:00	18:00
Z2	Wed	HWS Occupation	08:00	18:00
Z2	Thurs	HWS Occupation	08:00	18:00
Z2	Fri	HWS Occupation	08:00	18:00
Z2	Sat	HWS Occupation	Off	Off
Z2	Sun	HWS Occupation	Off	Off

Zone	Day	Label	Start	Stop
Z1	Mon	WC Extract Fans	08:00	18:00
Z1	Tues	WC Extract Fans	08:00	18:00
Z1	Wed	WC Extract Fans	08:00	18:00
Z1	Thurs	WC Extract Fans	08:00	18:00
Z1	Fri	WC Extract Fans	08:00	18:00
Z1	Sat	WC Extract Fans	Off	Off
Z1	Sun	WC Extract Fans	Off	Off

Trend Outstation - Maintenance Check List

Site:	UCA Farnham						
Address: LAN:	**33 075**	**Outstation: Type:**	IQ 231 Iss.3.12	**Location:**	Main Library Plant Rm		
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset**	**Operating Device**	**Note**
A1	S1	Outside Air Temp	11.99	°C	0		
A2	S2	Space Temperature	72.8	°C	-2		
A3	S3	AHU Frost Coil Temp	13.84	°C	0		1
A4	S4	AHU Supply Temp	16.35	°C	1		1
A5	S5	DIX 1	128.53	DIM	0		
A6	S6	DIX 2	128.93	DIM	0		
A7	S7	Boiler Return Temp	18.53	°C	-2.5		1
A8	S8	VT Flow Temp	19.47	°C	0		1
A9		Not Used					
A10		Not Used					
A11		Not Used					
A12		Not Used					
A13		Not Used					
A14		Not Used					
A15		Not Used					
A16		Not Used					
A17		Not Used					
A18		Not Used					
A19		Not Used					
A20		Not Used					
B1	D1	BOILER 1 AND PUMP	0		122		
B2	D2	CT Pumps	0		171		
B3	D3	Boiler Rm Fan	0		124		
B4	D4	VT Pumps 2RM	0		175		
B5	D5	VT Control Valve	0		72		
B6	D6	AHU FANS AND	50		160		
B7	D7	AHU Frost Valve	100		109		
B8	D8	AHU Heater Valve	100		167		
B9	D9	Not Used					
B10	D10	Not Used					
B11	D11	Not Used					
B12	D12	Not Used					

Knob N°	Description/Label Set-points.	Value	Units
K1	Frost Stage 1	2	°C
K2	Frost Stage 2	10	°C
K3	Frost Stage 3	12	°C
K4	Room Temp SP	19	°C
K5	BOILER RETURN STPT	70	°C
K6	Boiler Rotate Hrs	24	Hrs
K7	Max VT Flow Temp	80	°C
K8	AHU Frost Coil SP	15	°C
K9	Min VT Flow Temp	20	
K10	VT Slope Adjust	-2.5	
K11	AHU MIN SUP TEMP	16	°C
K12	AHU MAX SUP TEMP	24	°C
K13	Exercise Time	12.3	HHMM
K14	Exercise Day	2	
K15	Fixed VT Flow SP	70	°C
K17	Max VT Flow Temp	80	°C
K18	Fans & Dampers	50	

Switch N°	Description/Label	Status
W1	AHU Manual OFF	O
W2	CT Pumps Manual OFF	O
W3	VT Pumps Manual OFF	O
W8	CT Duty Pump 0=P1	I
W9	CT Pump 1 Enable	I
W10	CT Pump 2 Enable	I
W11	VT Duty Pump 0=P1	I
W12	VT Pump 1 Enable	I
W13	VT Pump 2 Enable	I
W14	Fixed VT SP Switch	I
W15	Boiler fan reset	O

Zone	Day	Label	Start	Stop
Z1	Mon	LLRC Occupancy Times	8:00	18:00
Z1	Tues	LLRC Occupancy Times	8:00	18:00
Z1	Wed	LLRC Occupancy Times	8:00	18:00
Z1	Thurs	LLRC Occupancy Times	8:00	18:00
Z1	Fri	LLRC Occupancy Times	8:00	18:00
Z1	Sat	LLRC Occupancy Times	9:00	17:00
Z1	Sun	LLRC Occupancy Times	9:00	17:00

Trend Outstations - Maintenance Check List

SITE:	UCA Farnham				
Address:	011	**Outstation:**	**IQ 220+**	**LOCATION:**	Blue Zone Boiler Rm
LAN:	075	**Type:**	**Iss.**		

Wiring Point	**Point N°**	**13** Description	**Value**	**Units**	**Source Offset Setting**	Operating **Device/ Check**	**Notes**
1-In1	S1	Outside Air Temp	12.85	°C	0	✓	
2-In2	S2	Header Flow Temp	16.42	°C	0	✓	1
3-In3	S3	Header Return Temp	16.83	°C	0.5	✓	1
4-In4	S4	Boilers Flow Temp	16.33	°C	0	✓	1
5-In5	S5	Boiler Return Temp	16.41	°C	0	✓	1
6-In6	S6	Space Temp	18.83	°C	0	✓	
7-In7							
8-In8							
9-L1	D1	Heating Pumps No1-2	0		114	✓	2
10-L2	D2	Trace Heating Enable	O		24.5	✓	2
11-L3							
12-L4							
13-L5							
14-L6							
15-L7							
16-L8	D8	Boiler No1 Enable	0		135	✓	2
17-L9	D9	Boiler No2 Enable	0		144	✓	2
18-L10	D10	Boiler No3 Enable	0		152	✓	2
19-L11	D11	Boiler No4 Enable	0		154	✓	2
20-L12	D12	Boiler No5 Enable	0		159	✓	2

Knob N°	**Description/Label Set points**	**Value**	**Units**
K1	Room Temp SP	20	°C
K2	Hi Outside HTG OFF	16	°C
K3	Frost Stage 1 SP	1	°C
K4	Frost Stage 2 SP	10	°C
K5	Frost Stage 3 SP	12	°C
K6	Max BLR Flow Temp	80	°C
K7	Min BLR Flow Temp	50	°C
K9	Boilers Fixed SP	85	°C
K10	Exercise Time	12.15	HHMM
K11	Exercise Day	2	
K12	Boiler Rotate Hrs	24	Hrs
K13	Trace Heating SP	3	°C

Switch N°	**Description/Label**	**Status**

W1	Winter-Summer Switch	I
W2	Boilers Fixed SP ON	O
W3	Htg Duty Pump 0=P1	O
W4	Rotate Boiler NOW	O
W5	Trace Htg Manual OFF	O
W6	Plant Manual OFF	O
W7	Htg Pump 1 Enable	I
W8	Htg Pump 2 Enable	O

Zone	Day	Label	Start	Stop
Z1	Mon	Occupation Times	8:00	18:00
Z1	Tues	Occupation Times	8:00	18:00
Z1	Wed	Occupation Times	8:00	18:00
Z1	Thurs	Occupation Times	8:00	18:00
Z1	Fri	Occupation Times	8:00	18:00
Z1	Sat	Occupation Times	Off	Off
Z1	Sun	Occupation Times	Off	Off

Trend Outstations - Maintenance Check List

SITE:	UCA Farnham				
Address: **LAN:**	012 075	**Outstation: Type:**	**IQ 220+ Iss.**	**LOCATION:**	Blue Zone Boiler Rm

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Device/Check	Notes
1-In1	I1	Boiler No1 Fault	O	O	I	✓	1
2-In2	I2	Boiler No2 Fault	O	O	I	✓	1
3-In3	I3	Boiler No3 Fault	O	O	I	✓	1
4-In4	I4	Boiler No4 Fault	O	O	I	✓	1
5-In5	I5	Boiler No5 Fault	O	O	I	✓	1
6-In6	S6	Four Dix Inputs	232.1	Dig		✓	
7-In7							
8-In8	I8	Gas Meter Pulse	O	O	O	✓	1
9-L1							
10-L2							
11-L3							
12-L4							
13-L5							
14-L6							
15-L7							
16-L8							
17-L9							
18-L10							
19-L11							
20-L12							

DIM 1

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Operating Device/ Check	Notes
S6	I9	Lthw Pressure On-OK	I	I	I	✓	2
	I10	Heating Pump F-Prove	I	I	I	✓	2
	I11	Safety Citcuit On-OK	I	I	I	✓	2

Switch N°	Description/Label	Status
W1	Reset Gas Total	O

Notes

Trend Outstation - Maintenance Check List					
SITE:	UCA Farnham				
Address: LAN:	64 075	**Outstation: Type:**	**IQ 204 Iss.**	**Location:**	Craft & Design (back student Stage)

Analogue Inputs

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Operating Device/ Check	Notes
A1	S1	Return Air Temp	17.43	°C	0		1
A2	S2	Return Air Humidity	44.41	%RH	0		1,3
A3							
A4							
A5							
A6							
A7	S7	Filter Change	0.01		0		2
A8	S8	Auxiliary Alarm	0.01		0		2

Digital Inputs

Wiring Point	Point N°	Description	Status	Req	Alarm Enabl'd	Operating Device/ Check	Notes
D1	I1	Airflow Fail Input	I	I	I		1
D2	I2	Compressor 1 Trip	O	O	O		2
D3							
D4							
D5	I5	Overheat Cut-Out	O	O	O		2
D6	I6	Manual Control	O	O	O		2
D7	I7	Bottle Change Input	I	I	I		2
D8	I8	Pushbutton Status	O	O	O		2

Outputs

Wiring Point	Point N°	14 Description	Output Value	Software Source	Operation Device/ Check	Notes
B1	D1	Common Alarm	I	22.4		2
B2	D2	Unit On-Off	I	410.7	√	
B3	D4	Dehum=50% Cool1=100%	100	140		2
B4	D5	Cool 2-Rapid Dehum	O	26.1		2
B5	D7	Heating Control	0	129	√	
B6	D8	Humidifier	100	138		3
B7	D1	Common Alarm	I	22.4		2
B8	D2	Unit On-Off	I	410.7	√	

Knob N°	Description/Label Set-points	Value	Units
K1	Return Air Setpoint	17	°C
K2	Humidity Setpoint	50	%RH
K3	Restart Delay	30	s
K4	Temperature Deadband	1	°C
K5	Humidity Deadband	10	%RH
K6	Rtn. Temp High Limit	27	°C
K7	Rtn. Temp Low Limit	14	°C
K8	Rtn. Hum High Limit	70	%RH
K9	Rtn. Hum Low Limit	25	%RH
K10	Setback Setpoint	20	°C
K11	Heating Gain	20	
K12	Heating Integral	5	min
K13	Cooling Gain	-20	
K14	Cooling Integral	5	min
K15	Dehum. Gain	-20	
K16	Dehum. Integral	5	min
K17	Humidity Gain	20	
K18	Humidity Integral	5	min
K19	Hours Run Setpoint	168	h
K20	Hrs.Run Differential	0.01	h
K23	Bottle Change Delay	3000	s
K25	No. Of Heat Stages	3	
K26	Prev. Unit's Address	20	Out
K27	Airflow Alarm Delay	120	s
K31	Dehum. Temp. Diff.	3	°C
K37	Fan Run On Time	0	s
K38	Assist Temp.Setpoint	25	°C
K39	Assist Temp. Diff.	1	°C

Switch N°	Description/Label	Status
W1	Auto Restart=On	I
W2	Duty=On Standby=Off	I
W3	Changeover On Alarms	O
W4	Assist On High Temp	O
W5	CP1 Hours Run Reset	O
W6	CP2 Hours Run Reset	I
W7	CP3 Hours Run Reset	I
W8	Fan Hours Reset	O
W9	Disable Dehum	O
W10	ElectHt=Off ModHt=On	I
W11	Disable Hrs Run CO	I
W12	Airflow Fail Reset	O
W13	Modulating Hum.= On	O
W15	Disable Humidifier	O
W17	Disable CO On OHCO	O
W18	Disable Pushbutton	O
W19	2 Stage Cool HGBP	I
W20	Enable Rapid Dehum	O

Zone	Day	Label	Start	Stop
Z1	Mon	Std. Operating Times	0:00	24:00
Z1	Tues	Std. Operating Times	0:00	24:00
Z1	Wed	Std. Operating Times	0:00	24:00
Z1	Thurs	Std. Operating Times	0:00	24:00
Z1	Fri	Std. Operating Times	0:00	24:00
Z1	Sat	Std. Operating Times	0:00	24:00
Z1	Sun	Std. Operating Times	0:00	24:00

Zone	Day	Label	Start	Stop
Z2	Mon	Night Setback Times	24:00	24:00
Z2	Tues	Night Setback Times	24:00	24:00
Z2	Wed	Night Setback Times	24:00	24:00
Z2	Thurs	Night Setback Times	24:00	24:00
Z2	Fri	Night Setback Times	24:00	24:00
Z2	Sat	Night Setback Times	24:00	24:00
Z2	Sun	Night Setback Times	24:00	24:00

Trend Outstation - Maintenance Check List

SITE:	UCA Farnham				
Address: LAN:	66 75	**Outstation: Type:**	**IQ 204 Iss.**	**Location:**	Craft & Design (back student Stage)

Analogue Inputs

Wiring Point	Point N°	Description	Value	Units	Source Offset Setting	Operating Device/ Check	Notes
A1	S1	Return Air Temp	20.42	DegC	0		1
A2	S2	Return Air Humidity	42.65	%RH	0		1,3
A3							
A4							
A5							
A6							
A7	S7	Filter Change	0.01		0		2
A8	S8	Auxiliary Alarm	0.01		0		2

Digital Inputs

Wiring Point	Point N°	Description	Status	Req	Alarm Enabl'd	Operating Device/ Check	Notes
D1	I1	Airflow Fail Input	I	I	I		1
D2	I2	Compressor 1 Trip	O	O	O		2
D3							
D4							
D5	I5	Overheat Cut-Out	O	O	O		2
D6	I6	Manual Control	O	O	O		2
D7	I7	Bottle Change Input	O	O	O		2
D8	I8	Pushbutton Status	O	O	O		2

Outputs

Wiring Point	Point N°	15 Description	Output Value	Software Source	Operation Device/ Check	Notes
B1	D1	Common Alarm	I	22.4		2
B2	D2	Unit On-Off	I	410.7	√	
B3	D4	Dehum=50% Cool1=100%	0	140		2
B4	D5	Cool 2-Rapid Dehum	O	26.1		2
B5	D7	Heating Control	0	129	√	
B6	D8	Humidifier	0	138		3
B7	D1	Common Alarm	I	22.4		2
B8	D2	Unit On-Off	I	410.7	√	2

Switch N°	Description/Label	Status
W1	Auto Restart=On	I
W2	Duty=On Standby=Off	I
W3	Changeover On Alarms	O
W4	Assist On High Temp	O
W5	CP1 Hours Run Reset	O
W6	CP2 Hours Run Reset	O
W7	CP3 Hours Run Reset	O
W8	Fan Hours Reset	O
W9	Disable Dehum	O
W10	ElectHt=Off ModHt=On	I
W11	Disable Hrs Run CO	I
W12	Airflow Fail Reset	O
W13	Modulating Hum.= On	O
W15	Disable Humidifier	O
W17	Disable CO On OHCO	O
W18	Disable Pushbutton	O
W19	2 Stage Cool HGBP	I
W20	Enable Rapid Dehum	I

Knob N°	Description/Label Set-points	Value	Units
K1	Return Air Setpoint	20	°C
K2	Humidity Setpoint	45	%RH
K3	Restart Delay	20	s
K4	Temperature Deadband	1	°C
K5	Humidity Deadband	10	%RH
K6	Rtn. Temp High Limit	27	°C
K7	Rtn. Temp Low Limit	15	°C
K8	Rtn. Hum High Limit	75	%RH
K9	Rtn. Hum Low Limit	25	%RH
K10	Setback Setpoint	20	°C
K11	Heating Gain	20	
K12	Heating Integral	5	min
K13	Cooling Gain	-20	
K14	Cooling Integral	5	min
K15	Dehum. Gain	-20	
K16	Dehum. Integral	5	min
K17	Humidity Gain	20	
K18	Humidity Integral	5	min
K19	Hours Run Setpoint	168	h
K20	Hrs.Run Differential	0.01	h
K23	Bottle Change Delay	1800	s
K25	No. Of Heat Stages	1	
K26	Prev. Unit's Address	20	Out
K27	Airflow Alarm Delay	120	s
K31	Dehum. Temp. Diff.	3	°C
K37	Fan Run On Time	0	s

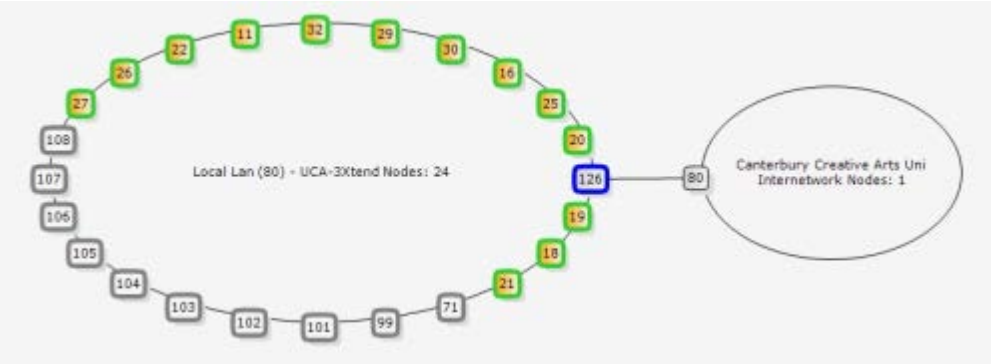
K38	Assist Temp.Setpoint	25	°C
K39	Assist Temp. Diff.	1	°C

Zone	Day	Label	Start	Stop
Z1	Mon	Std. Operating Times	0:00	24:00
Z1	Tues	Std. Operating Times	0:00	24:00
Z1	Wed	Std. Operating Times	0:00	24:00
Z1	Thurs	Std. Operating Times	0:00	24:00
Z1	Fri	Std. Operating Times	0:00	24:00
Z1	Sat	Std. Operating Times	0:00	24:00
Z1	Sun	Std. Operating Times	0:00	24:00

Zone	Day	Label	Start	Stop
Z1	Mon	Night Setback Times	24:00	24:00
Z1	Tues	Night Setback Times	24:00	24:00
Z1	Wed	Night Setback Times	24:00	24:00
Z1	Thurs	Night Setback Times	24:00	24:00
Z1	Fri	Night Setback Times	24:00	24:00
Z1	Sat	Night Setback Times	24:00	24:00
Z1	Sun	Night Setback Times	24:00	24:00

Canterbury Trend System Information

Trend system Information



Lan Tree

- Lan 80 Outstation 11 “MAIN BOILERS” Trend IQ233.
- Lan 80 Outstation 16 “G Block Heating” Trend IQ212.
- Lan 80 Outstation 18 “A Block Heating” Trend IQ212.
- Lan 80 Outstation 19 “A Block AHUs” Trend IQ3
- Lan 80 Outstation 20 “B Block Heating” Trend IQ212.
- Lan 80 Outstation 21 “B Block AHUs” Trend IQ233.
- Lan 80 Outstation 22 “C Block Heating” Trend IQ212.
- Lan 80 Outstation 25 “C Block Cragg” Trend IQ221.
- Lan 80 Outstation 26 “Kitchen Panel” Trend IQ221.
- Lan 80 Outstation 27 “C Block AHUs” Trend IQ231.
- Lan 80 Outstation 29 “D Block AHUs” Trend IQ233.
- Lan 80 Outstation 30 “D Block AHUs D13” Trend IQ221.
- Lan 80 Outstation 32 “D Block Heating” Trend IQ212.

The outstations highlighted in red are the outstations that were scheduled on this visit. The other outstations will be serviced on the next visit.

The 963 details are:

- Version: 3.30[R] [Server]
- Serial Number: 963/01658/001

Main Boilers

Trend Outstations - Maintenance Check List									
Site:	UCA Canterbury								
Address: 11 **LAN:** 80		**Outstation:** IQ 233 **Type:** Iss.3.12		**Location:**	Boiler Plantroom				
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Offset / starts**	**Operating Dev/Check**		**Notes**	
CH 1	S1	Outside Air Temp	17.81	DegC	1.4	TB/TO	✓	1	
CH 2	S2	Boiler Flow Temp	21.61	DegC	1.4	TB/TC	✓	2	
CH 3	S3	Boiler Return Temp	21.08	DegC	0	TB/TC	✓	3	
CH 4	S4	HWS Flow Temp	74.72	DegC	2.9	TB/TC	✓		
CH 5	I5	Fire-Safety Cct	I	-	24	-	✓	4	
CH 6	I6	Flue Fan Status	I	-	2333	-	✓		
CH 7	-	Spare	-	-	-	-	-	-	
CH 8	-	Spare	-	-	-	-	-	-	
CH 9	I9	Boiler 1 Fault	O	-	581	R10	✓	5	
CH 10	I10	Boiler 2 Fault	O	-	745	R11	✓	5	
CH 11	I11	Boiler 3 Fault	O	-	963	R12	✓	5	
CH 12	I12	Pri Pump Flow Status	O	-	1585	-	✓		
CH 13	I13	HWS Boiler 1 Fault	O	-	60	R13	✓	5	
CH 14	I14	HWS Boiler 2 Fault	O	-	22	R14	✓	5	
CH 15	S15	4-DIX	11.87	-	0	-	✓	6	
CH 16	I16	Gas Meter Pulse	O	-	0	-	X	7	
CH 17	I17	Boiler Plant Ext SW	O	-	98	-	✓	8	
CH 18	I18	Pressure Unit Status	I	-	752	-	✓	5	
CH 19	I19	HWS Plant EXT SW	O	-	32	-	✓	8	
CH 20	I20	Winter-Summer SW	O	-	98	-	✓	8	

Wiring Point Chan'el	**Point N°**	**Description**	**Output Value**	**Software Source**	**Operation Device/ Check**	**Notes**
CH 1	D1	Pri Pump 1 Enable	O	24.1	✓	
CH 2	D2	Pri Pump 2 Enable	O	24.2	✓	
CH 3	D3	Boiler 1 Shunt Pump	O	26.0	✓	
CH 4	D4	Boiler 2 Shunt Pump	O	26.1	✓	
CH 5	D5	Boiler 3 Shunt Pump	O	26.2	✓	
CH 6	D6	Boiler 1 Enable	O	26.6	✓	
CH 7	D7	Boiler 2 Enable	O	26.7	✓	
CH 8	D8	Boiler 3 Enable	O	27.0	✓	
CH 9	D9	HWS Boilers Enable	I	27.2	X	11
CH 10	D10	HWS Sec Pump Enable	I	27.1	✓	
CH 11	D11	Flue Fan Enable	I	30.4	✓	
CH 12	D12	E Blk Pump Enable	O	31.1	✓	

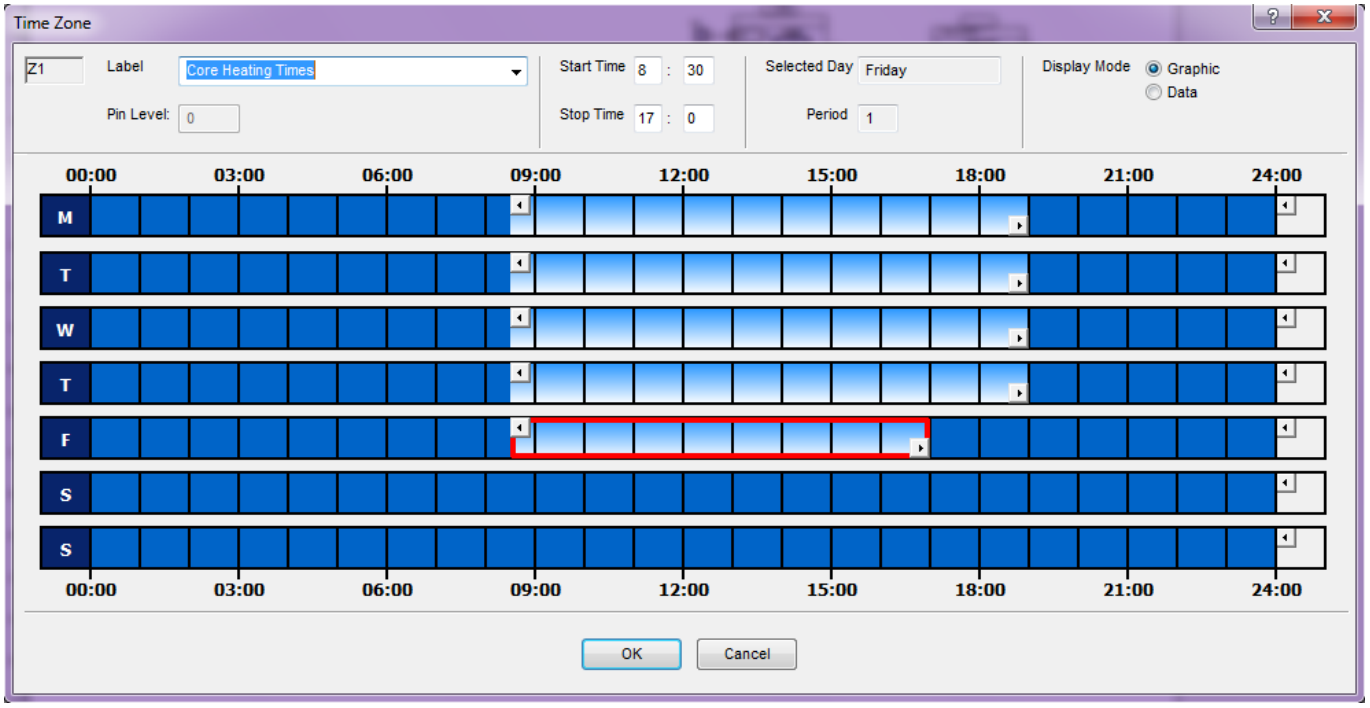
Setpoints

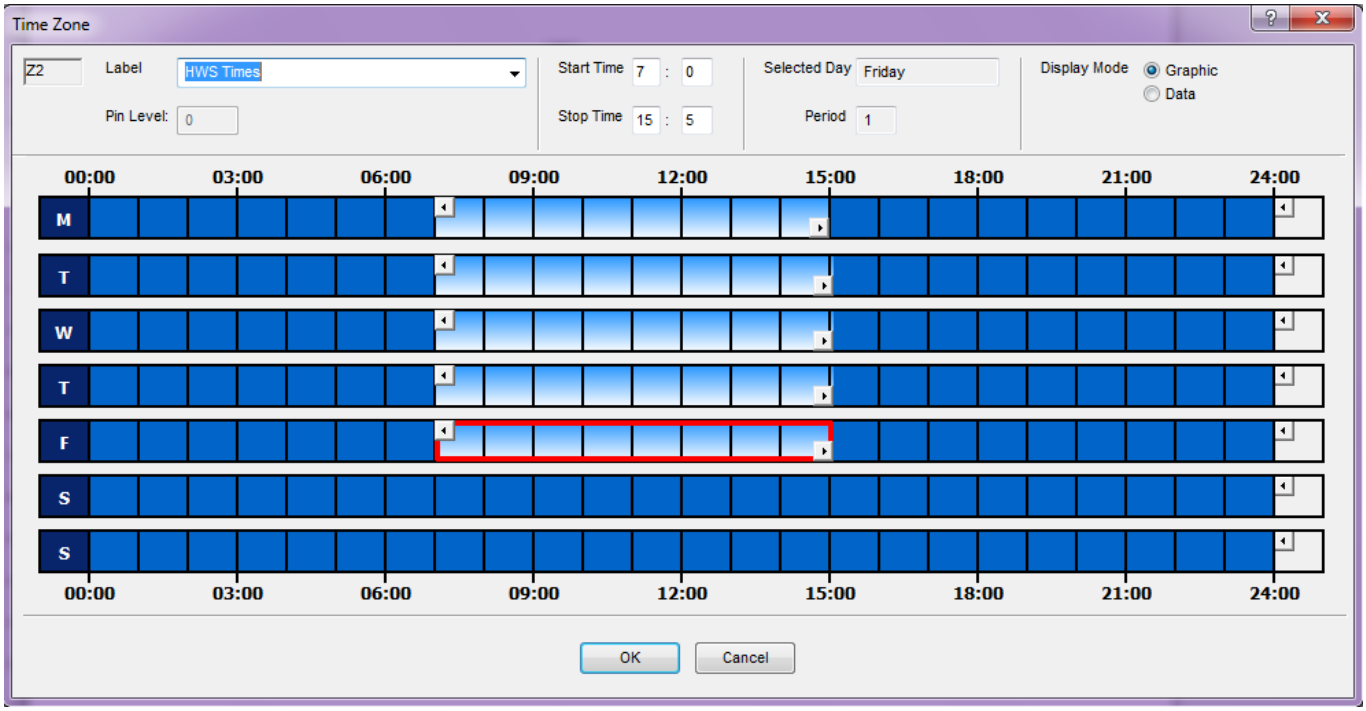
Knob N°	Description/Label	Value	Units
K1	Hio Outside HTG Off	19	DegC
K2	Frost Stage 1 SP	2	DegC
K3	Frost Stage 2 SP	10	DegC
K4	Boilers Fixed SP	65	DegC
K5	Boiler Rotate Hrs	24	Hrs
K6	Exercise Time	12	HHMM
K7	Exercise Day	2	Day
K8	HWS Temp SP	65	DegC
K9	HWS Lo Limit Alarm	55	DegC
K10	HWS Lo Alarm Delay	90	Mins
K30	Do not adjust	5400	

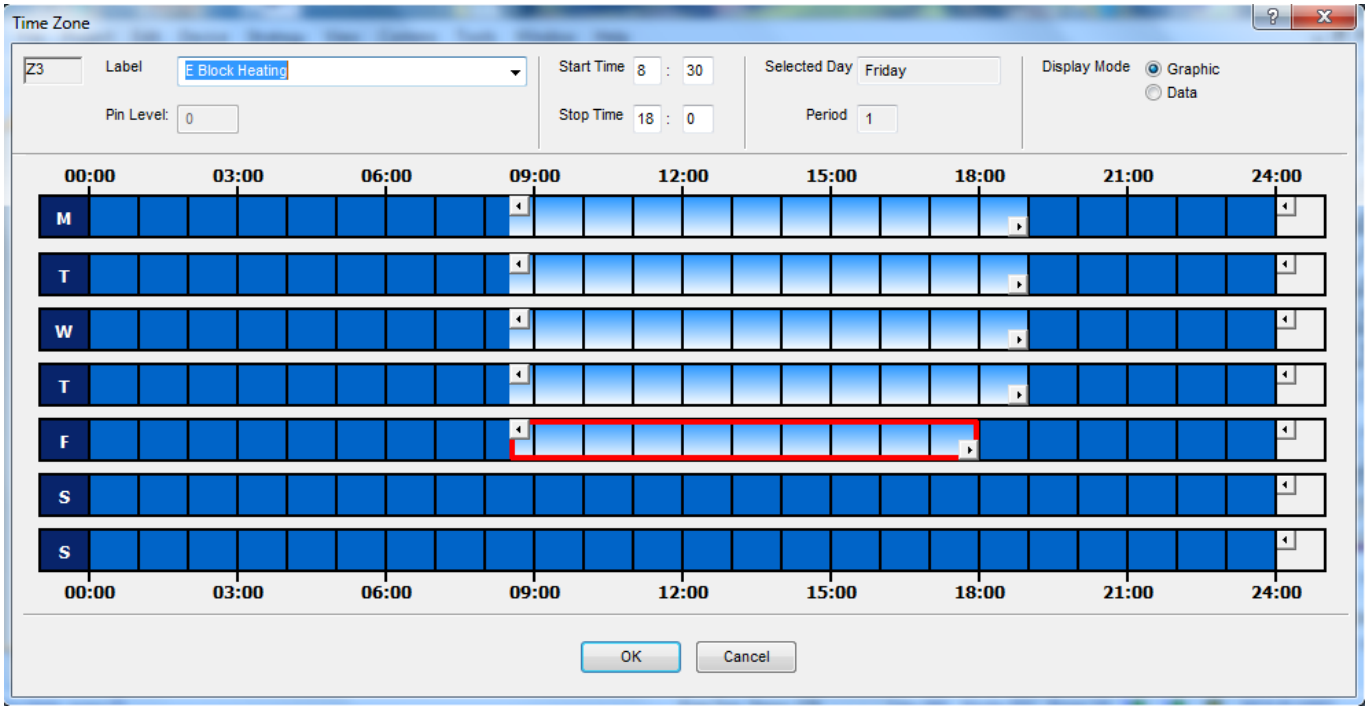
Switches

Switch N°	Description/Label	Status
W2	Boilers Manual ON	O
W3	Boilers Fixed SP ON	O
W4	Pri Duty Pump 0=P1	O
W5	Pri Pump 1 Enable	I
W6	Pri Pump 2 Enable	O note 10
W8	Boilers Manual OFF	O
W9	Pumps Hrs Run Reset	O

Time Zones







Input N°	Description	Dix Input N°		Status
Input 30	Boiler 1 Pump Fault	A – In1	R16	O
Input 31	Boiler 2 Pump Fault	B – In2	R17	O
Input 32	Boiler 3 Pump Fault	C – In3	R18	O
Input 33	HWS Sec Pump Fault	D – In4	R19	O

G Block Heating

Trend Outstations - Maintenance Check List								
Site:	UCA Canterbury							
Address: 16 **LAN:** 80		**Outstation Type:**	IQ 212 Iss.3.12	**Location:**	G Block Room G0.1 (Services Cupboard)			
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset**	**Operating Device/ Check**		**Notes**
A1	S1	VT Flow Temperature	22.36	DegC	0	TB/TC	✓	1
A2	S2	Ent Hall Temperature	24.38	DegC	0	TE/TD	✓	2
A3	-	Spare	-	-	-	-	-	
A4	I4	Vt pump trip	O	-	-	-	✓	
A5	I5	Vt Flow Switch	I	-	-	-	X	3
B1	D1	VT Valve	0	-	61	-	✓	4
B2	-	Spare	-	-	-	-	-	
B3	D3	VT Pump 1 Start	O	-	25.3	-	✓	
B4	D4	VT Pump 2 Start	O	-	25.4	-	✓	
B5	D5	Ent Hall Valve	O	-	32.0	-	✓	5
B6	-	Spare	-	-	-	-	-	

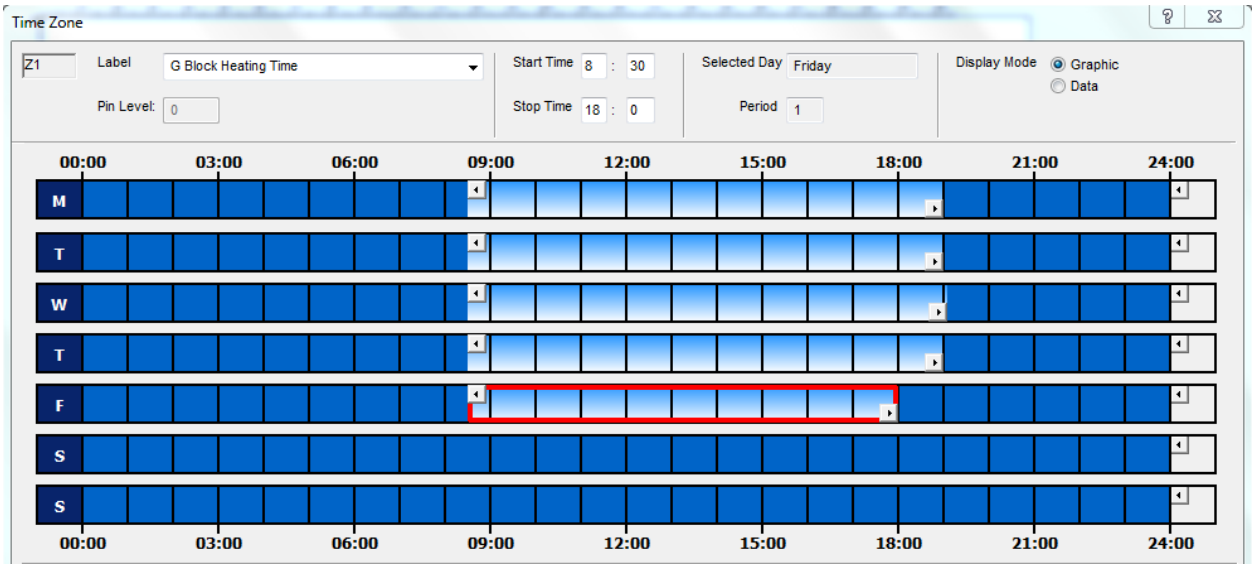
Setpoints

Knob N°	Description/Label	Value	Units
K1	Build Temp Set Point	21.5	DegC
K2	Max VT Flow Temp	80	DegC
K3	Min VT Flow Temp	20	
K4	VT Slope Adjust	-2.5	
K5	Fixed VT Flow SP	50	DegC
K6	Internal Frost SP	12	DegC
K7	Exercise Time	12.15	HHMM
K8	Exercise Day	2	
K9	Ent Hall Temp SP	20	DegC

Switches

Switch N°	Description/Label	Status
W1	Plant Overide ON	O
W5	VT Duty Pump 0=P1	I
W6	VT Pump 1 Enable	I
W7	VT Pump 2 Enable	I
W8	Ent Hall Vlve Manual	O
W9	VT Hours Run Reset	O
W10	Fixed VT SP Switch	O

Time Zones



A Block Heating

Trend Outstations - Maintenance Check List									
Site:	UCA Canterbury								
Address: 18 **LAN:** 80		**Outstation Type:**	IQ 212 Iss.3.01	**Location:**	A Block Room A0.1 "Fine Arts" (Services Cupboard)				
Wiring Point	**Point N°**	**Description**		**Value**	**Units**	**Source/ Offset**	**Operating Device/ Check**		**Notes**
A1	S1	CT Flow Temperature		21.12	DegC	0	TE/TI	✓	
A2	S2	VT Flow Temperature		22.39	DegC	0	TE/TI	✓	
A3	S3	1st Floor Space Temp		24.21	DegC	0	TE/TD	✓	
A4	I4	CT Flow Switch		O	-	-		✓	1
A5	I5	Vt Flow Switch		O	-	-		✓	1
B1	D1	VT Valve		0.0	%	61		✓	2
B2	-	Spare		-	-	-	-	-	-
B3	D3	CT Pump 1 Start		O	-	24.1		✓	
B4	D4	CT Pump 2 Start		O	-	24.2		✓	4,5
B5	D5	VT Pump 1 Start		O	-	25.3		✓	
B6	D6	VT Pump 2 Start		O	-	25.4		✓	4

Setpoints

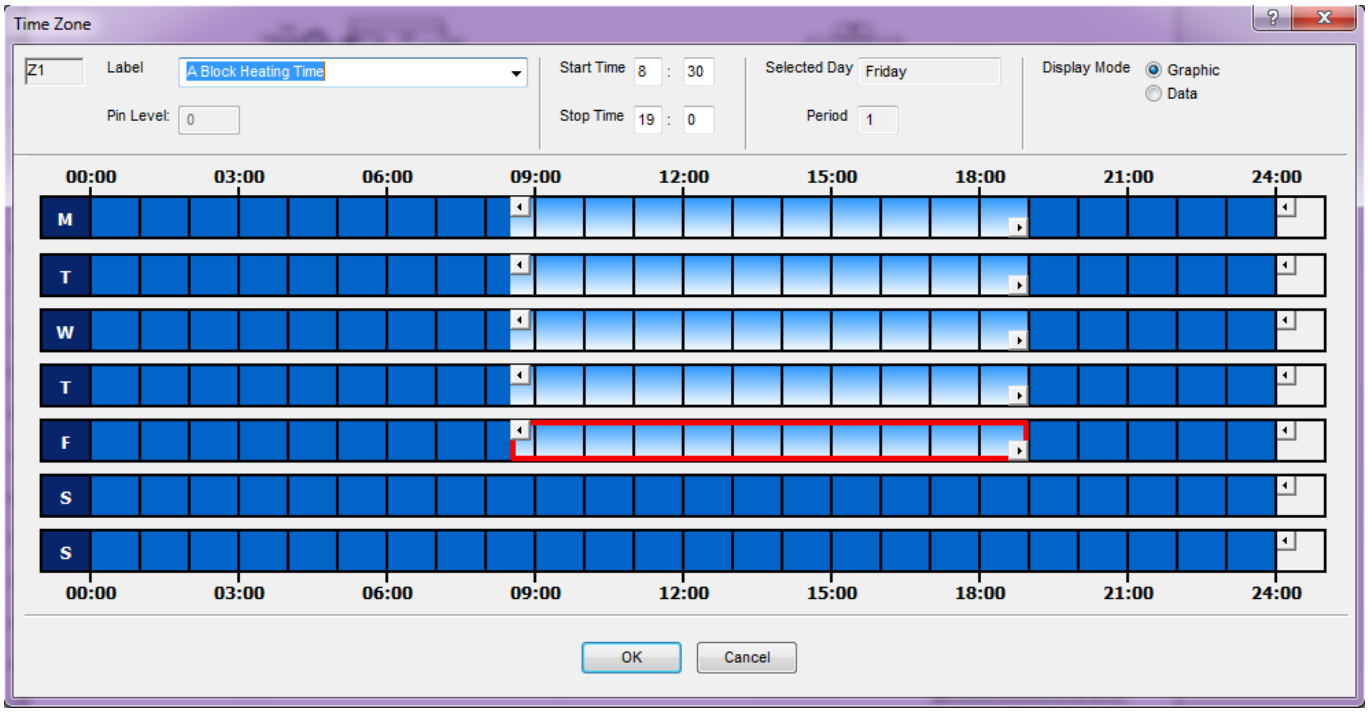
Knob N°	Description/Label	Value	Units
K1	Room Temp Set Point	21	DegC
K2	Max VT Flow Temp	80	DegC
K3	Min VT Flow Temp	20	
K4	VT Slope Adjust	-2.5	
K5	Fixed VT Flow SP	50	DegC

K6	Internal Frost SP	12	DegC
K7	Exercise Time	12.56	HHMM
K8	Exercise Day	2	

Switches

Switch N°	Description/Label	Status
W1	Plant Overide ON	O
W2	CT Duty Pump 0=P1	O
W3	CT Pump 1 Enable	I
W4	CT Pump 2 Enable	O
W5	VT Duty Pump 0=P1	O
W6	VT Pump 1 Enable	I
W7	VT Pump 2 Enable	I
W8	CT Hours Run Reset	O
W9	VT Hours Run Reset	O
W10	Fixed VT SP Switch	O

Time Zones



A Block AHU's

Trend Outstations - Maintenance Check List					
Site:	UCA Canterbury				
Address: **LAN:**	19 80	**Outstation:** **Type:**	IQ 3	**Location:**	1st Floor A Block in the services cupboard next to the Campus Registrar's office.

Wiring Point	Point N°	Description	Value	Units	Offset	Operating Dev/Check	Notes
CH 1	I1	AHU No1 Frost Stat	O	-	-	-	✓
CH 2	I2	AHU No1 Tripped	O	-	-	-	✓
CH 3	S3	AHU No1 Supply Temp	14.01	DegC	0	TB/TI/S	✓
CH 4	S4	Room AO3 Space Temp	16.92	DegC	0	TB/TS	✓
CH 5	S5	Room AO1 Space Temp	17.76	DegC	0	TB/TS	✓
CH 6	S6	Room AO2 Space Temp	17.37	DegC	0	TB/TS	✓
CH 7	S7	Room AO1 Space Temp	17.14	DegC	0	TB/TS	✓
CH 8	-	Spare	-	-	-	-	-

Wiring Point Chan'el	Point N°	Description	Output Value		Software Source	Operation Device/ Check	Notes	
CH 1	D1	AHU 1 Supply Fan	I	-	23.3	-	✓	-
CH 2	D2	AHU 1 Extract Fans	I	-	23.3	-	✓	-
CH 3	D3	AHU1 Heating Valve	100	%	128	-	X	1
CH 4	D4	Room AO3 Valve	I	-	21.2	-	✓	2
CH 5	D5	Room AO2 Valve	I	-	21.4	-	✓	2
CH 6	D6	Room AO1 Valves	I	-	21.6	-	✓	2
CH 7	-	Spare	-	-	-	-	-	-
CH 8	-	Spare	-	-	-	-	-	-

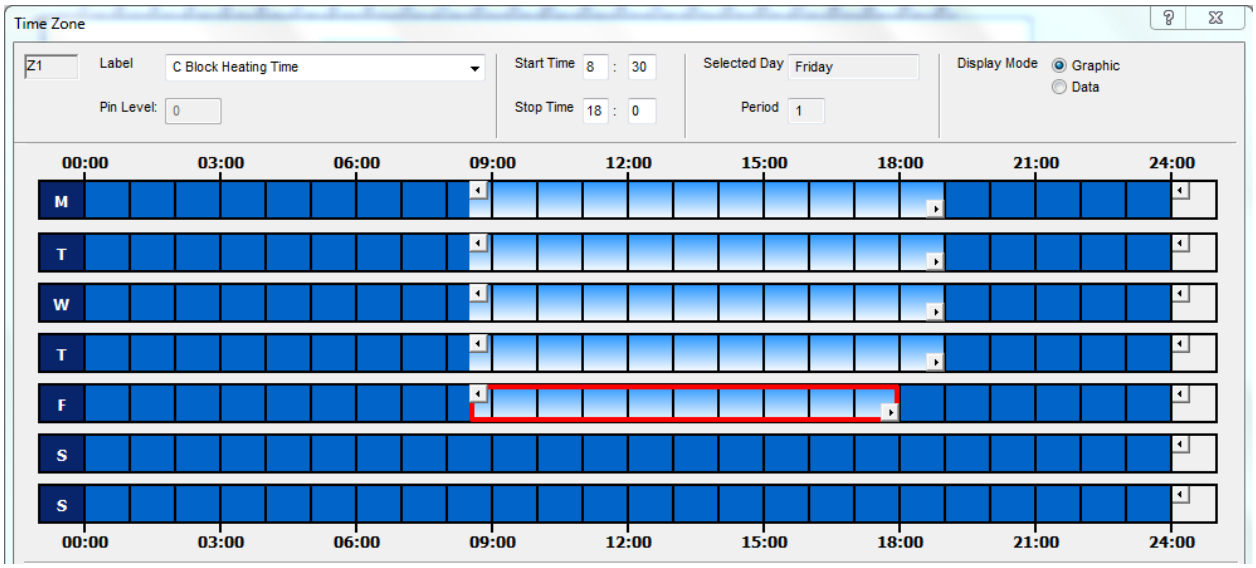
Setpoints

Knob N°	Description/Label	Value	Units
K3	Room AO3 Set point	20	DegC
K4	Room AO3 PB	0.5	DegC
K5	Room AO2 Set point	20	DegC
K6	Room AO2 PB	0.5	DegC
K7	Room AO1 Set point	20	DegC
K8	Room AO1 PB	0.5	DegC
K13	AHU MIN SUP TEMP	17	DegC
K14	AHU MAX SUP TEMP	25	DegC

Switches

Switch N°	Description/Label	Status
W1	AHU No1 Shutdown SW	O
W2	Rm AO3 Valve Man SW	O
W3	Rm AO2 Valve Man SW	O
W4	Room AO1Valve Man SW	O
W6	AHU 1 Hrs Reset	O

Time Zones



B Block Heating

Trend Outstations - Maintenance Check List								
Site:	UCA Canterbury							
Address: 20 **LAN:** 80		**Outstation Type:**	IQ 212 Iss.3.01	**Location:**	B Block Outside student bar (Room B0.26) (Services Cupboard)			
Wiring Point	**Point N°**	**Description**	**Value**	**Units**	**Source Offset Setting**	**Operating Device/ Check**	**Notes**	
A1	S1	CT Flow Temperature	24.81	DegC	0	TE/TI	✓	-
A2	S2	VT Flow Temperature	24.89	DegC	0	TE/TI	✓	-
A3	I3	Kirk Occupancy	O	-	-	-	✓	-
A4	I4	CT Flow Switch	O	-	-	-	X	1
A5	I5	Vt Flow Switch	O	-	-	-	✓	2
B1	D1	VT Valve	0	%	61	-	✓	3
B2	-	Spare	-	-	-	-	-	-
B3	D3	CT Pump 1 Start	O	-	24.1	-	✓	-
B4	D4	CT Pump 2 Start	O	-	24.2	-	✓	-
B5	D5	VT Pump 1 Start	O	-	25.3	-	✓	-
B6	D6	VT Pump 2 Start	O	-	25.4	-	✓	-

Setpoints

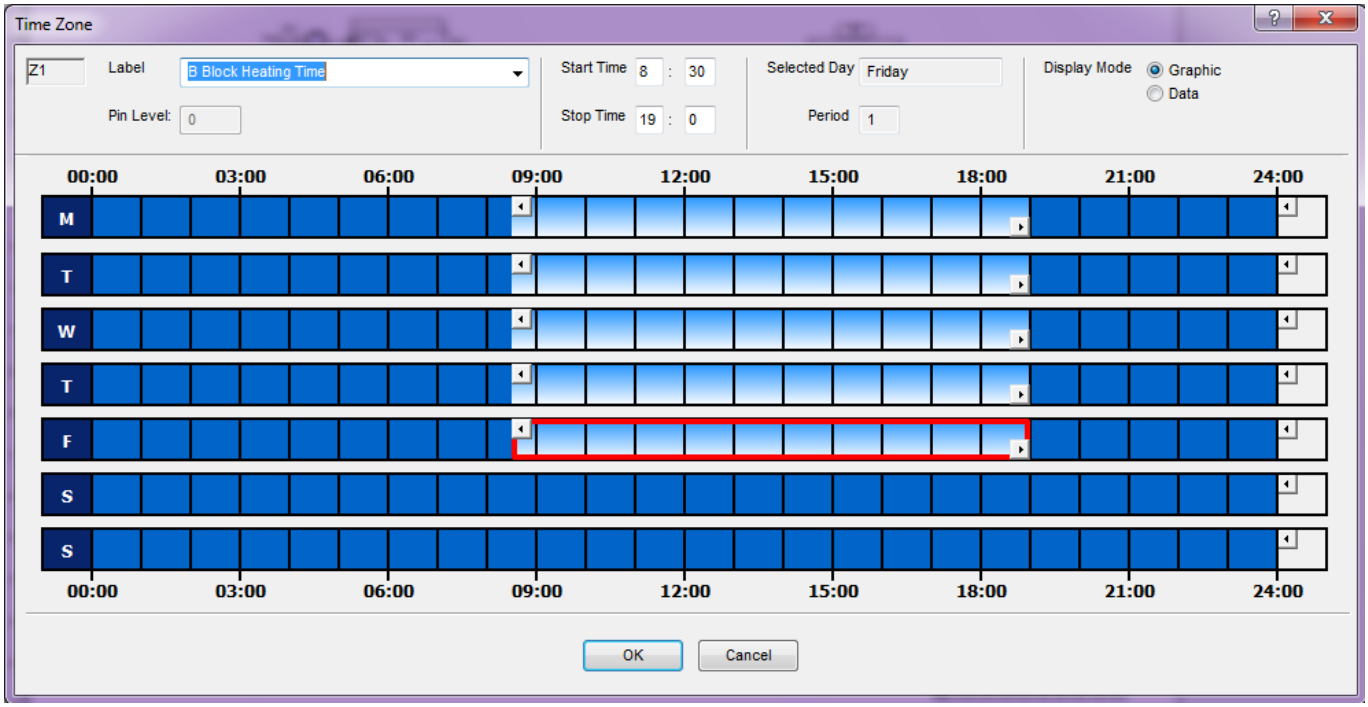
Knob N°	Description/Label	Value	Units
K1	Room Temp Set Point	21	DegC
K2	Max VT Flow Temp	80	DegC
K3	Min VT Flow Temp	20	
K4	VT Slope Adjust	-2	
K5	Fixed VT Flow SP	50	DegC
K6	Internal Frost SP	12	DegC

K7	Exercise Time	12.2	HHMM
K8	Exercise Day	2	

Switches

Switch N°	Description/Label	Status
W1	Plant Overide ON	O
W2	CT Duty Pump 0=P1	O
W3	CT Pump 1 Enable	I
W4	CT Pump 2 Enable	I
W5	VT Duty Pump 0=P1	O
W6	VT Pump 1 Enable	I
W7	VT Pump 2 Enable	I
W8	CT Hours Run Reset	O
W9	VT Hours Run Reset	O
W10	Fixed VT SP Switch	O

Time Zones



B Block AHU's

Trend Outstations - Maintenance Check List					
Site:	UCA Canterbury				
Address: 19 **LAN:** 80	**Outstation Type:**	IQ 3	**Location:**	1st Floor B Block in the services cupboard next to the Campus Registrar's office.	

Wiring Point	Point N°	Description	Value	Units	Offset	Operating Dev/Check	Notes
CH 1	I1	AHU 2 Frost Stat	O	-	-	-	✓
CH 2	I2	AHU 2 Supply Fault	O	-	-	-	✓
CH 3	I3	AHU 11 Frost Stat	O	-	-	-	✓
CH 4	I4	AHU 11 Supply Fault	O	-	-	-	✓
CH 5	S5	AHU 2 Supply Temp	23.79	DegC	0	TB/TS	✓
CH 6	S6	Library Room 1 Temp	24.11	DegC	0	TB/TS	✓
CH 7	S7	Library Room 2 Temp	23.89	DegC	0	TB/TS	✓
CH 8	S8	AHU 11 Supply Temp	23.65	DegC	0	-	✓
CH 9	S9	AHU 11 Extract Temp	23.14	DegC	0	-	✓
CH10	S10	AHU 11 Inlet Temp	23.68	DegC	0	-	✓
CH 11	S11	Kirk Room Temp	23.76	DegC	0	-	✓
CH 12	S17	Room B1.2 Temp	24.64	DegC	0	-	✓
CH 13	S18	Room B1.4 Temp	22.25	DegC	0	-	✓
CH 14	S19	Room B1.7 Temp	22.67	DegC	0	-	✓
CH 15	S20	Room B1.9 Temp	23.44	DegC	0	-	✓

Wiring Point Chan'el	Point N°	Description	Output Value		Software Source	Operation Device/ Check	Notes	
CH 1	D1	Library AHU2 Enable	I	-	G27D	-	✓	-
CH 2	D2	AHU11 Supply Enable	I	-	G20D	-	✓	-
CH 3	D3	Extract Fans Enable	I	-	G42D	-	✓	-
CH 4	D4	AHU11 Mixing Dampers	0	%	F47D	-	✓	-
CH 5	D5	AHU11 Recoup Damper	0	%	F42D	-	✓	-
CH 6	D6	AHU 2 Heating Vlv	0	%	F60D	-	✓	-
CH 7	D7	AHU 11 Heating Vlv	0	%	F40D	-	x	1
CH 8	D8	AHU11 On Lamp	0	-	G20D	-	✓	-
CH 9	D9	Room B1.2 AC Enable	I	-	G39D		✓	2
CH 10	D10	Room B1.4 AC Enable	I	-	G40D		✓	3
CH 11	D11	Room B1.7 AC Enable	I	-	G41D		✓	4
CH 12	D12	AHU11 Extract Enable	I	-	G20D		✓	

Setpoints

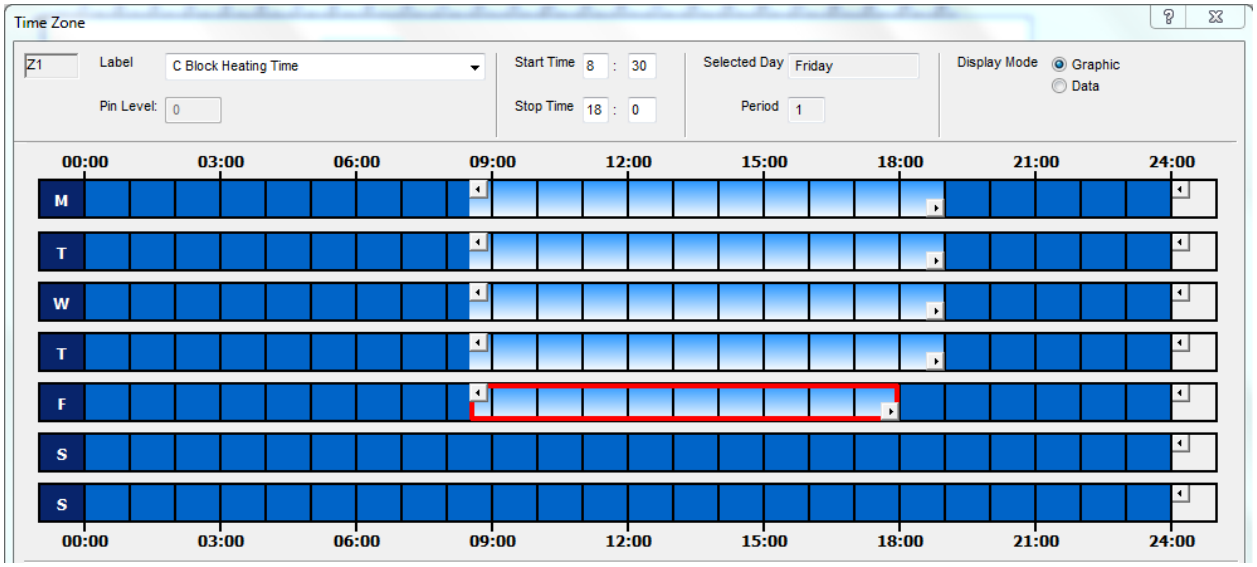
Knob N°		Description/Label	Value	Units
K	1	Kirk AHU Min ON Time	2	Hrs
K	2	Kirk Frost SP	12	DegC
K	3	Kirk Room Temp SP	17	DegC
K	4	Kirk Room Temp PB	0.5	DegC
K	5	AHU11 MIN SUP TEMP	18	DegC
K	6	AHU11 MAX SUP TEMP	26	DegC
K	7	Kirk Min Fresh Air	45	%

K	8	Library Frost SP	12	DegC
K	9	Do Not Adjust	G15F	Secs
K	10	Library Rm Temp SP	21	DegC
K	11	Library Rm Temp PB	0.5	DegC
K	12	AHU2 MIN SUP TEMP	18	DegC
K	13	AHU2 MAX SUP TEMP	23	DegC
K	14	AC Low Ambient OFF	3	DegC
K	15	Room B1.2 AC SP	23	DegC
K	16	Room B1.4 AC SP	23	DegC
K	17	Room B1.7 AC SP	23	DegC

Switches

Switch N°	Description/Label	Status
W1	AHU No1 Shutdown SW	O
W2	Rm AO3 Valve Man SW	O
W3	Rm AO2 Valve Man SW	O
W4	Room AO1Valve Man SW	O
W6	AHU 1 Hrs Reset	O

Time Zones



Site Addresses:

Farnham
Falkner Road, Farnham, Surrey GU9 7DS

Operational hours:

The University's operational hours are 08:00 to 17.15hrs Monday to Friday.
Academic areas are open additionally on Tuesday and Thursdays until 19.15hrs
With the exception of:
Library Building: Term time 09.00hrs – 20.00hrs: Out of term time 09.00hrs to 17.00hrs
Student Union Areas: Open from approximately 19.00 to 02.00hrs on some nights
Weekend Operational hours (only those listed):
Main Gallery: 10.00 to 16.00 Saturdays Only (occasional Sundays throughout the year)
Library Building: Term Time Only: Saturdays: 10.00 to 17.00 Sundays: 13.00 to 17.00
(Special later openings approximately four to five times a year)
Craft Study Centre: 10.00 to 16.00 Saturdays only (closure on specific weekends during the year)

Canterbury
New Dover Road Canterbury, Kent, CT1 3AN

Operational hours:

The University's operational hours are 08:30 to 20.00hrs Monday to Friday

Closed weekends

Epsom
21 Ashley Road, Epsom, Surrey, KT18 5BE

Operational hours:
The University's operational hours term time 08:00 to 20:00 Monday to Fridays

The University's operational hours non term time 08:00 to 18:30 Monday to Fridays

During term time the library is open from 10:00 to 17:00 on Saturdays, and 13:00 to 17:00 Sundays
(Special later openings approximately 3 times a year)

Access to site contact details
Tony Baldwin
Facilities Manager (Epsom)
21 Ashley Road
Epsom
Surrey
KT18 5BE
01372202446
tbaldwin@ucreative.ac.uk

APPENDIX B: PRICING SCHEDULE

Annual Charges - BMS Planned Preventative Maintenance Agreement

- Pre-planned maintenance visits by a system trained Trend / Honeywell specialist BMS technician, to ensure that all items of main plant equipment are serviced at least once per year.
- 24-hour callout facility (chargeable at contract rates).
- Unlimited use of Bureau Support technical helpdesk.
- 'Remote Response' via BMS Central Bureau (assuming a remote connection is available)
- Engineer's maintenance reports to be emailed to UCA BMS Manager within 7 working days of monthly visit

4 Year Comprehensive Annual Agreement costs

Site Address	Year 1 Figure	Year 2 Figure	Year 3 Figure	Year 4 Figure
Farnham	**£**	**£**	**£**	**£**
Canterbury	**£**	**£**	**£**	**£**
Epsom	**£**	**£**	**£**	**£**
Total Annual Cost	**£**	**£**	**£**	**£**

Call out charges and day rate:

	Normal Working Hours (08:00 to 17:00 Monday to Friday)	Out of Hours (17:00 to 08:00 Monday to Friday)	Out of Hours (Saturday)	Out of Hours (Sunday & Bank Holidays)
Controls Engineer	£	£	£	£
Callout Charges	4 - Hours at the Appropriate Rate (Minimum Charge £ Mon-Fri, 0800-1700 travel charges inclusive)			

Additional Labour for projects works to be charged at the standard day rates as detailed below:

	Normal Working Hours (08:00 to 17:00 Monday to Friday)
I day	£

Training

Training to be organise for UCA Staff through the contractor at a TREND training facility

No	Course	1 Student	3 Students	5 Students	7 Students
1	963 Operators	£	£	£	£
2	System Engineering	£	£	£	£
3	963 Engineering	£	£	£	£

Essential Recommended Spare parts list

Item	Part Name	Part No	Excluding VAT £
1			
2			
3			
4			
5			

BMS Life Cycle & Migration Programme and Costs

Epsom

Controller Type	Address	Identification	Year Change 2016	Year Change 2017	Year Change 2018	Year Change 2019	Item Cost
NDP	**5**	**LLRC NDP Display**					**£**
IQ220	12	Refectory AHU					**£**
IQ 220	13	Boardroom AHU					**£**
IQ241	21	LLRC Boilers					**£**
IQ241	22	LLRC Reheaters					**£**
IQ251	11	Main Boilers					**£**
XNC220	64	Menerga Integration					**£**
Total Annual Cost			**£**	**£**	**£**	**£**	

canterbury

Controller Type	Address	Identification	Year Change 2016	Year Change 2017	Year Change 2018	Year Change 2019	Item Cost
NDP							**£**
IQ231	19	A Block AHU's					**£**
IQ231	27	C Block AHU's					**£**
IQ212	16	G Block Heating					**£**
IQ212	18	A Block Heating					**£**
IQ212	20	B Block Heating					**£**
IQ212	22	C Block Heating					**£**
IQ212	32	D Block Heating					**£**
IQ221	25	C Block Cragg					**£**
IQ221	26	Kitchen Panel					**£**
IQ221	30	D Block AHU's D13					**£**
IQ233	11	Main Boilers					**£**
IQ233	21	B Block AHU's					**£**
IQ233	29	D Block AHU's					**£**
Total Annual Cost			**£**	**£**	**£**	**£**	

Farnham

Controller Type	Address	Identification	Year Change 2016	Year Change 2017	Year Change 2018	Year Change 2019	Item Cost
IQ231	33	LLRC Main Plant					£
IQ231	34	LLRC AC AHU					£
IQ231	57	John Luard Boilers					£
IQ241	35	Green Zone					£
IQ241	43	Main Hall Block					£
IQ221	11	Blue Zone BLRs 1					£
IQ221	12	Blue Zone BLRs 2					£
IQ221	13	Blue Zone Rm 22A					£
IQ221	14	Blue Zone Rm 21					£
IQ221	21	IT Lecture No 1					£
IQ221	22	IT Lecture No 1					£
IQ221	30	Main Foyer					£
IQ221	44	Green Zone MCP2					£
IQ221	45	Green Zone MCP3					£
IQ221	46	Green Zone MCP4					£
IQ221	47	Green Zone MCP5					£
IQ221	58	John Luard AC					£
IQ221	59	John Luard AC					£
IQ233	31	IT Building AC					£
IQ204	66	Craft Study					£
IQ3	15	Boilerhouse CP1					£
IQ3	16	Boilerhouse CP2					£
IQ3	60						£
Total Annual Cost			**£**	**£**	**£**	**£**	