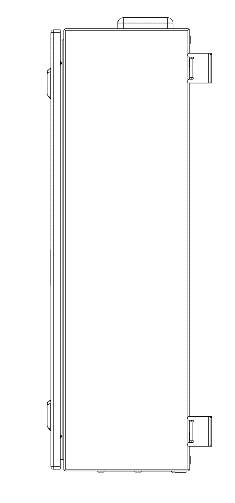
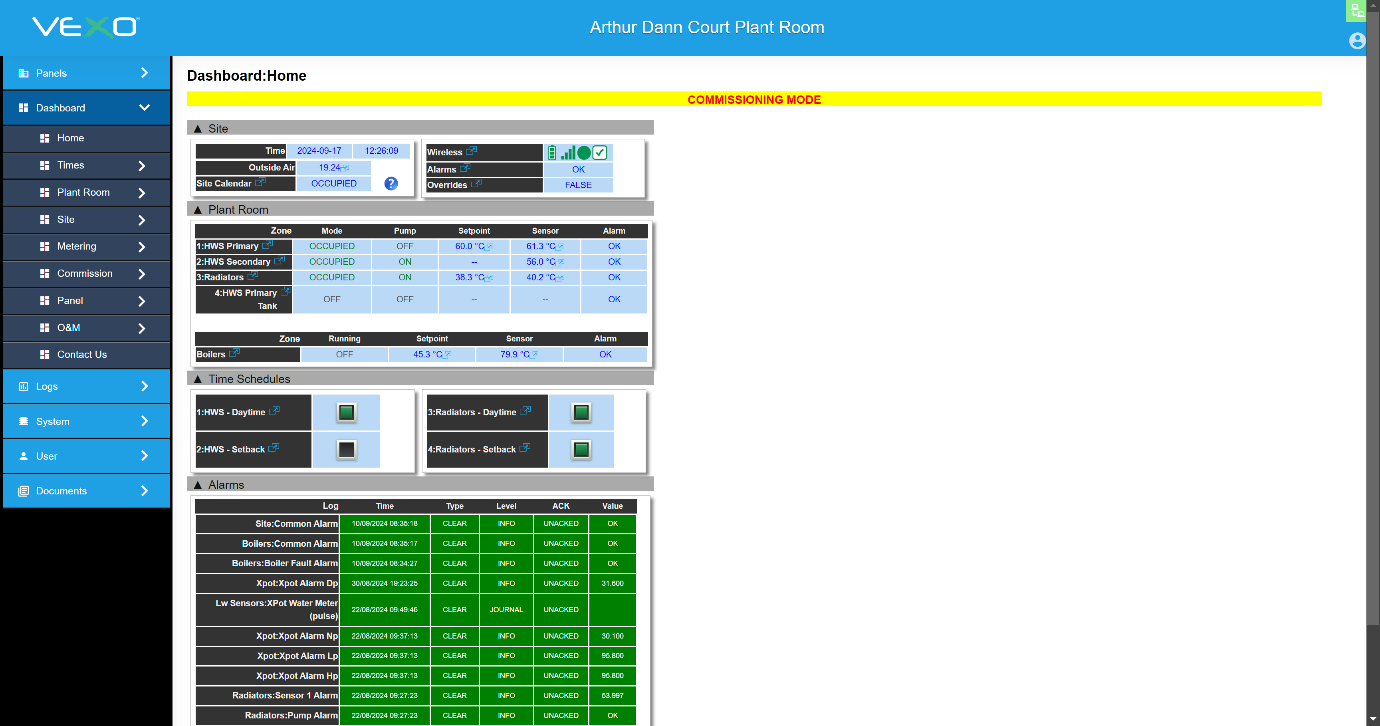
**VEXO S-BMS 455 Smart Building Management System**

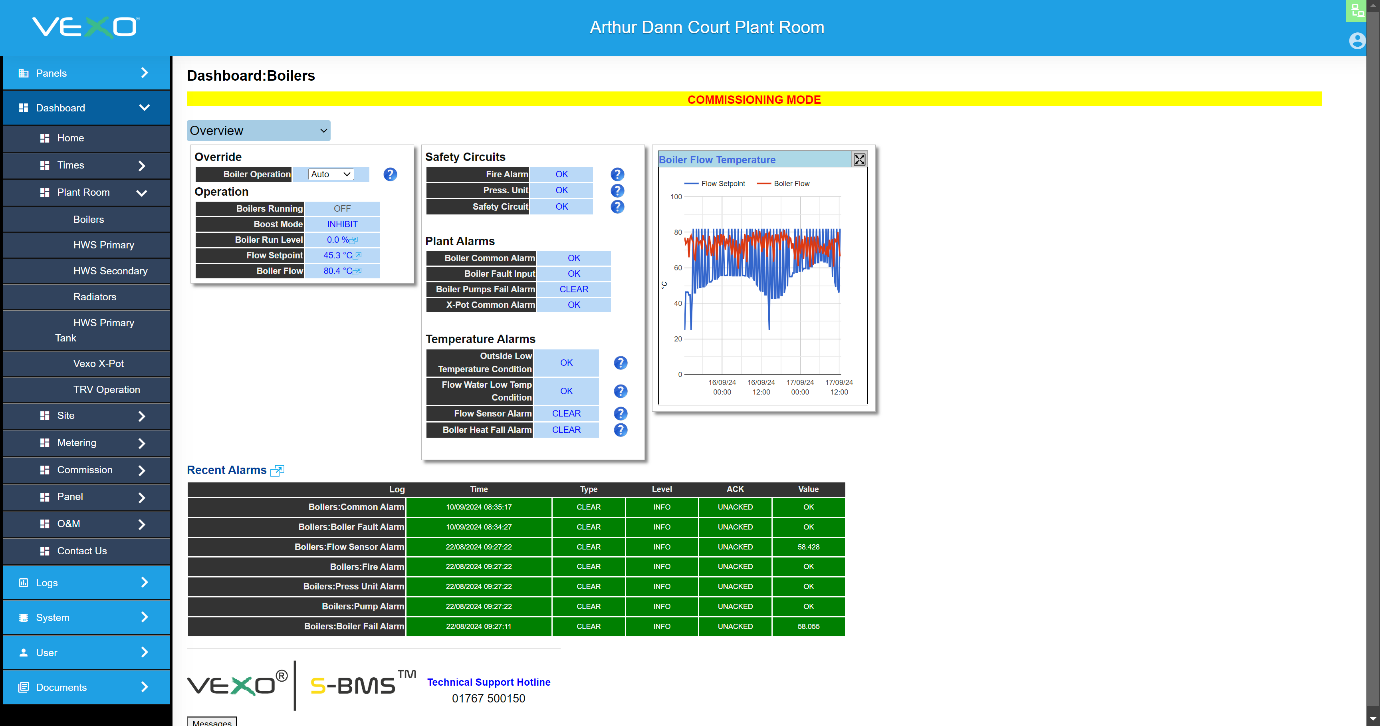
1. **General**
   1. A black box with silver metal hinges

      Description automatically generated
   2. **Product Name:** S-BMS Remote Monitoring and Control Panel
   3. **Description:** A compact and versatile remote monitoring and control panel designed for small to medium sized plant equipment applications. The S-BMS provides real-time data monitoring, remote control, and alarm management capabilities.
   4. **Manufacturer:** VEXO International UK Ltd
   5. **Model Number: V-SBMS455B**
   6. **Revision:** 1.0
   7. **Date:** February 2025
2. **Functionality**
   1. **Remote Access:** Control and monitor the system from anywhere with an internet connection.
   2. **Time Scheduling:**
      1. **Event-Based Scheduling:** Trigger actions based on specific events, such as alarms, sensor values, or time of day.
      2. **Time-Based Scheduling:** Schedule tasks to occur at specific times or intervals.
      3. **Calendar-Based Scheduling:** Create recurring schedules based on calendars or holidays.
   3. **Setpoints:**
      1. **Configurable setpoints:** Define desired values for various parameters, such as temperature, pressure, flowrate, or power consumption.
      2. **Alarm Triggers:** Set high and low alarm limits for setpoints to monitor deviations and initiate appropriate actions.
      3. **Automatic Adjustments:** Automatically adjust setpoints based on predefined rules or feedback from sensors.
   4. **Parameters:**
      1. **Real-Time Monitoring:** Measure energy consumption and identify areas for energy efficiency improvements.
      2. **Data Logging:** Store historical data for analysis and reporting.
      3. **Trend Analysis:** Identify trends and patterns in data to optimize operations and predict future performance.
   5. **Energy Metering:** measure energy consumption and identify areas for energy efficiency improvements via RS485 input.
   6. **Communication**
      1. **Ethernet:** Provides broadband connectivity to the cloud platform, allowing access to control panel data. Client VLAN network configuration recommended.
      2. **Modbus:** Provides a simple, reliable, and cost effective way for various physical devices within the network to communicate and exchange data.
      3. **LoRaWAN:** Offers a network for low-power devices to transmit data over long distances, wirelessly to a centralized gateway and network.
      4. **BACnet:** Standardized framework for various devices to communicate and exchange data within a building, enabling efficient control and management of various systems.
   7. **Security:** Robust security measures to protect sensitive data and prevent unauthorized access.
   8. **Remote Access Levels:** Different access levels available to users depending on their roles and responsibilities.
3. **Hardware Overview**
   1. **Enclosure:** complies to BS EN 60947 and BS EN 61439.
      1. **Dimensions:** H: 900 W: 700 D: 350 (mm)
         1. **Diagram:**
            1. **A white rectangular object with black text

               Description automatically generated**
      2. **Weight:** 45 KG
   2. **Internal Components**
      1. **Overview**
         1. **Diagram:**
            1. **A black and white drawing of a circuit board

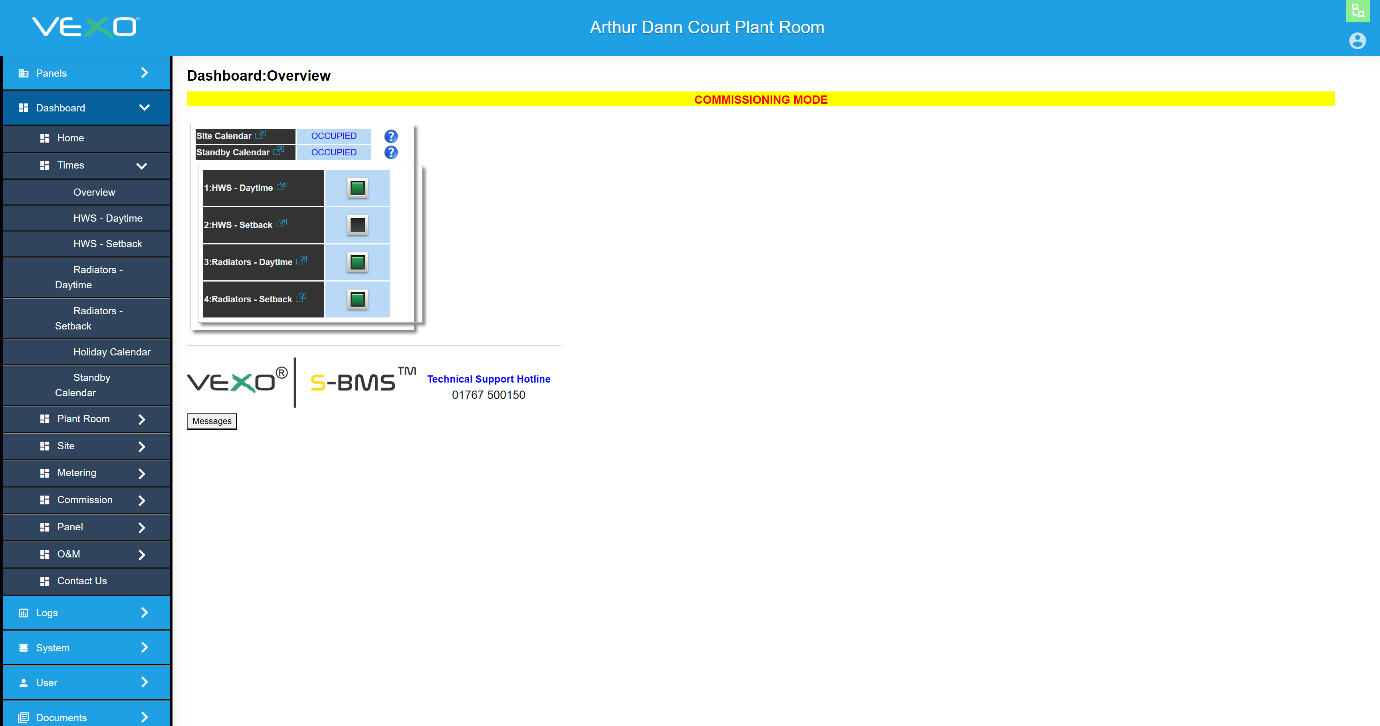
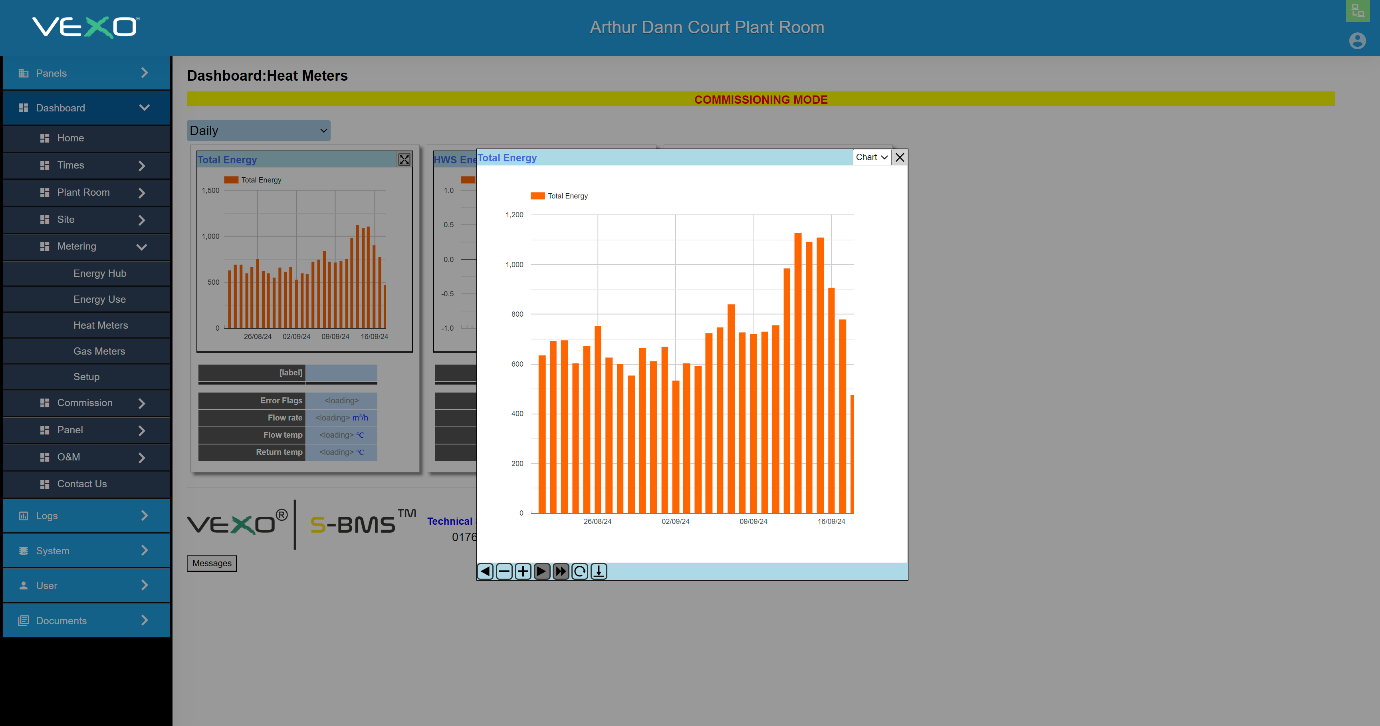
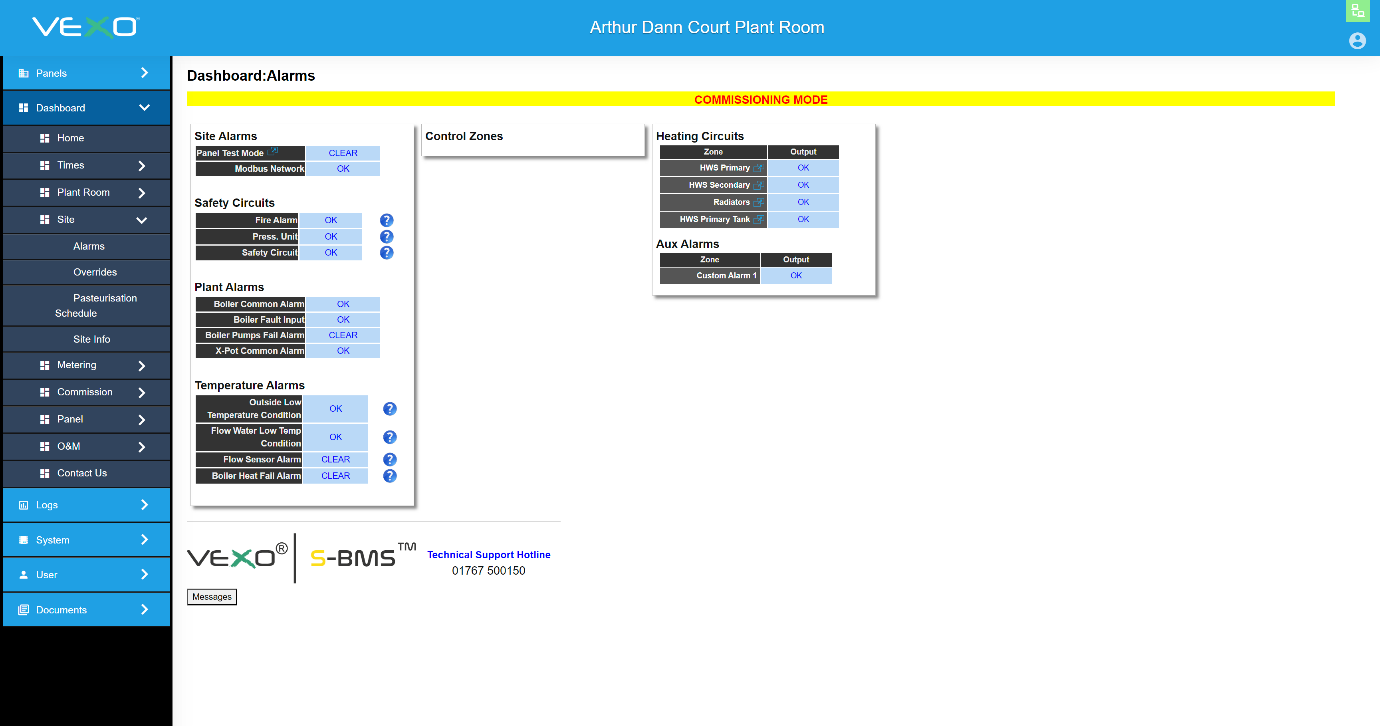
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      2. **Components**
         1. **MCB:** 
            1. **MCB1:** 230V / 6A Circuit Breaker
            2. **MCB2:** 230V / 2A Circuit Breaker
         2. **Relays:** 
            1. **R1-9:** 24VDC, 10A, 230V, 1CO Schnieder RXG12BD w/led + button
            2. **R21-23:** 24VDC, 5A, 230V, 2CO Schnieder RXG23BD w/led
         3. **Power Supply Modules:** 
            1. **PSU1:** 24VDC 2.5A DIN RAIL PSU
            2. **PSU2:** 24VDC 2.5A DIN RAIL PSU
            3. **PSU3:** 48VDC 1.25A DIN RAIL PSU
         4. **Controller:** S-BMS X729
         5. **Router:** Robustel R3000-LG4LA
         6. **Antenna:** Dual 4G/Lora Antenna (2JW0124-C868B \_SOLRE)
         7. **Port Switch:** TL-SF1005P
         8. **ISMA I/O Module:** 
            1. **IO38:** ISMA-B-MIX38
            2. **IO18:** ISMA-B-MIX18
   3. **I/O Point Schedule**
      1. **A table of schedule with different colored squares

         Description automatically generated with medium confidence**
4. **Dashboard / Operation**
   1. **Sample Graphics**
      1. **Site Dashboard**
      2. **Plantroom - Boiler Monitoring & Control**



* + 1. **Plantroom - Circuit Monitoring & Control**



* + 1. **Times – Schedules** 
    2. **Energy Metering** 
    3. **Alarm Notifications** 

1. **Commissioning**
   1. **Pre-Configuration:** Preferred temperatures, scheduling and operational requirements are pre-set into the panel prior to dispatch.
   2. **Remote Setup:** Instead of a technician wiring everything together, the BMS is set up remotely. A technician can access the system from a computer or tablet and make sure all the components are configured correctly and communicating with each other.
   3. **On-Site Assistance: Even though the setup is done remotely, there’s a requirement for either the electrical or mechanical installer to support with the following:**
      1. Ensure all the sensors, actuators, and other hardware are physically installed correctly.
      2. Check that the BMS is connect to the building network where necessary.
      3. Troubleshoot any issues that might arise during the setup process.