



associate
ENGINEERING SYSTEMS

Associate Engineering Systems Limited,
27a Drumlough Road, Hillsborough, BT26 6PX
+44 (0)28 9268 1122 www.soc8.co.uk

Hard wired connection options to IV Produkt AHU 'Climatix' Controls

If you want to hard wire your **BMS** to the on-board AHU controls for a simple 'enable' & 'fault' type connection, and have the run times controlled by your BMS in this way, please do so as follows.

Additionally if you are connecting your **fire alarm**, the details are explained in section 7) below. The two types of interface are slightly different:

- 1) For a hard wired external stop/start signal use terminals 203-204 in the AHU controller. This is a digital input suitable for using an enable/fault signal via a BMS (and these terminals can also be used to connect something like a PIR, timer, or a simple switch connection). Our controls send a DC signal out which should be connected to a standard volt-free contact at the BMS or external switch. The BMS/switch signals the unit operation by opening and closing the vfc. The signal by default either operates the AHU at the programmed fan speed '2' or turns the unit off.
- 2) At delivery, the AHU is set to operate via the internal time-switch program. To use terminals 203 & 204 only to switch the unit on (running at fan step '2') & off, you must go in to the hand-held controller and turn all of the internal scheduler commands to "off" by making a simple configuration change as per the procedure set out in section 7) at the end of this document:
- 3) Our digital output for common alarm indication is via terminals 237-238. This is a volt free contact within our controls that changes state in the event of an AHU alarm. The BMS needs to give a DC signal to these contacts.
- 4) The hard-wired connection to the AHU controls detailed in 1) above is the highest priority of control for turning the unit **on** (ie when the signal is active). It overrides everything else such as BMS communication connection via Modbus or Bacnet, and the internal AHU time control settings. When the signal to terminals 203 & 204 is passive, it frees the unit to be operated by lower priority elements of control such as communication to the AHU from the BMS via Modbus or Bacnet, or the internal time switch program.
- 5) If a BMS that is integrated via Modbus or BacNet is set to 'Auto', the AHU will run according to the AHU controls internal time clock settings at the corresponding fan speed that is set within the AHU scheduler for that period (1, 2, or 3). In this instance, if the time of day is during a period where the AHU scheduler is set to 'off' the AHU will not run. Instead of 'Auto', the BMS via Modbus or BacNet can signal the AHU to run at Fan Speed 1, Fan Speed 2, or fan Speed 3. This will override any internal time-clock scheduler settings. **If you never want the internal time clock in the AHU to turn the AHU on, all internal AHU time switch program times should be set to 'off' as explained above. (Time Switch Program- Mon Time 1 Off, Mon Time 2 'Off' (not Stage 2 for example).**



Air handling with the focus on LCC

www.soc8.co.uk



- 6) Hard wired emergency stop. An external digital input that is wired to terminals 219 & 220 provides an 'emergency stop' facility if required. This is the highest priority signal to **stop** the AHU. It overrides everything else such as the internal time switch program, BMS run signals, or external control via terminals 203 & 204.
- 7) For AHU shutdown by an external fire alarm, use digital input terminals 225 & 226. This is similar to the stop/start signal detailed in 1) above. Our controls send a DC signal out that should be switched by a standard volt free contact within the fire alarm panel in the event of a fire alarm. The jumper that is fitted between these terminals when the AHU is delivered must be removed if connecting the external VFC in the fire alarm to these. A stop indication by this interface will override anything else. An alarm activated by this interface requires a manual reset at the AHU by default. If you wish to change this to auto-reset (the AHU starts automatically once the fire alarm has cleared), then we can send you the menu procedure to change this on the AHU controller.
- 8) Procedure to set all internal time switch signals to "off" (ie only digital input via terminals 203 & 204 to turn AHU on):

- Password enter 2000
- ESC (back to Start page)
- Start page
- Main overview
- Act operating mode
- Time switch program
- Schedule
- Continuous run No
- Monday
- Value 1 Off
- Value 2 Off
- Value 3 Off
- ESC
- Copy schedule
- Tu to Su OK
- ESC
- ESC
- External control
- Off delay 0.0 hrs
- Fan steps 2step
- Start/stop function No

Please ensure that you consult the supplied controls wiring diagram for every individual unit when making any connections to an external system, including connections detailed above.

