

Overview

AirCare Automation's ACC7020 – Graphic Screen Control Console intelligently monitors and controls clean room and facility environments. The console provides communication (MODBUS-RTU platform), unit control, and system monitoring in one easy-to-use package.

The ACC7020 console supports fan control networks consisting of up to 200 nodes organized in up to 25 groups. Any node can be a fan controller or a remote I/O device. The ACC7020 also features direct connections for digital input and outputs, as well as two analog inputs for external sensors (eg, room temperature, differential pressure, particle count, etc.).



Functions/ Features

- Automatically monitor, generate and report errors found on any node
- Individual fan speed adjustment
- Global speed adjustment facility/groups
- Global set-back (stand-by) speed adjustment
- Central monitoring of following error types:
 - Communication error with the node
 - AC fault switch activated
 - RPM low or high limit exceeded
 - Sensor low or high limit exceeded
- Central monitoring for Analog sensors (i.e. temp., humidity, pressure), FFU set-point/RPM
- Menu driven configuration options
- Three levels of password protected user control: View, User and Master
- Clock/Calendar feature to set Standby periods
- Digital/analog I/Os for Alarm output, Remote Stop, Remote Standby

Environment

- DIN-rail mounted: IP20 / NEMA1 (case)
- Panel mounted: IP65/NEMA4X (front)
- Operational temperature: 0 to 50°C (32 to 122°F)
- Storage temperature: -20 to 60°C (-4 to 140°F)
- Relative Humidity (RH): 5% to 95% (non-condensing)

Specifications

Power Supply

- Input Voltage : 24 VDC
- Max Current Consumption: 245mA@24V

Display Screen

- STN, LED, White LED backlight
- Viewing Area: 2.4"
- Display resolution: 128x64 pixels

Keyboard

- 20 keys (10 function, 10 alpha-numeric)
- Key type: Metal dome, sealed membrane switch

Communication

- One Isolated RS485 Serial Port
 - Voltage limits -7 to +12VDC differential maximum
 - Baud rate: 9600
 - Supports up to 200 VariPhase/ACM addresses
 - Cable type: Twisted pair (cat5e)
- MODBUS (master)

I/Os

Digital Inputs – (BMS or external device)

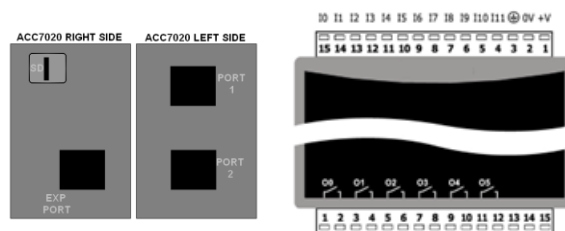
- 1 N.O. digital input for emergency stop
- 1 N.O. digital input for standby mode
- Input Voltage: 24VDC
 - 0-5VDC for Logic '0'
 - 17-28.8VDC for Logic '1'

Relay Output – (BMS or external device)

- 1 output relay for alarm activation
- SPST-N.O.
- Output current: 5A maximum (resistive load)
- Rated voltage: 250VAC / 30VDC
- Minimum load: 10mA@5VDC
- Response time: 10mS (typical)

Analog Inputs – (BMS or external sensor - optional)

- 2 analog inputs
- Input range: 0-10VDC
- Input impedance: 150KΩ
- Maximum input rating: 15V
- Resolution: 10-bit (0 to 1023)
- Conversion time: 20mSec
- Precision: ± 0.9%



EXAMPLE SCREENS

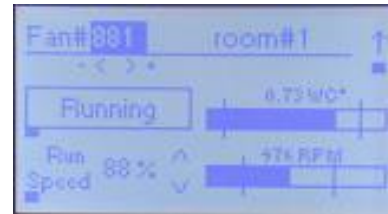
Main screen

The main screen shows in the lower right corner the software version number, system time and date, and the current access level. If the keypad is not used after 3 minutes, the screen will automatically revert to the facility overview screen.



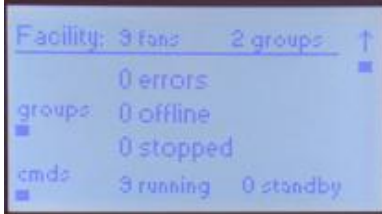
Fan/unit control

ECM (DC Brushless - ACMxxx) fan control screen shows the status of the fan identified by the fan # and group name. The fan's current speed setting, and RPM value are shown (along with high/low limits). The fan's running speed can be adjusted by pressing the button. The AC Fan screen is the same without the RPM monitor. The Modbus address of each fan can be changed by the user during installation via the "Node #" button.



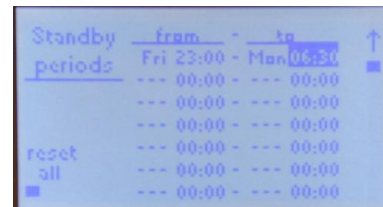
Facility control

This screen shows the total number of fans and groups defined in the system. It also shows the number of fans found with an error, offline, stopped, running or standby. If an error is found at anytime (if the alarm is activated) an alarm is turned on and the screen automatically goes to the facility overview screen.



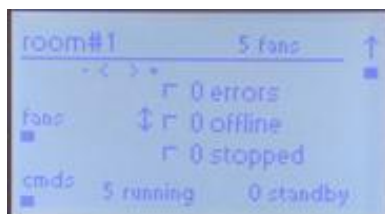
7-Day Setback

This screen allows the operator to define up to seven standby periods. A valid weekday and a time of day (24 hour clock) must be defined for the start and end of each period defined. The periods may overlap.



Group control

This screen shows the total number of fans for each group. It also shows the number of fans found with an error, offline, stopped, running and in standby respectively for that group.



Mechanical Dimensions

