ENVIRCO
Innovators in clean air technology

ACC7020 Series

Graphic Screen Control Consoles

Save Time • Save Money • Improve Performance

Introduction

ENVIRCO®'s ACC7020 Series graphic screen consoles intelligently monitor and control cleanroom and facility environments. The consoles provide communication (MODBUS-RTU platform), unit control, and system monitoring in one, easy-to-use package.

The ACC7020 and ACC7022 consoles support 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 inputs and outputs, as well as two analog inputs for external sensors (e.g. room temperature, differential pressure, particle count, etc.) The ACC7022 also enables ethernet communication with popular protocols MODBUS TCP/IP, OPC server, and BACNET IP.

Main Functions/Features

- Automatically monitor, generate, and report errors found on any fan
- Individual fan speed adjustment
- Global speed adjustment: facility/groups
- Global set-back speed adjustment
- Central monitoring of the 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. temperature, humidity, pressure), FFU set-point/RPM
- Menu-driven configuration options
- Password-protected user control: View, User, Master
- Clock/calendar feature to set Standby periods
- Digital analog I/Os for Alarm output, Remote Stop and Remote Standby

Environment

- DIN-rail mounted: IP20/NEMA1 (case)
- Panel mounted: IP65/NEMA4X (front panel)
- 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: 24VDC
- Maximum current consumption: 245mA @ 24V

Display Screen

- STN, LED, white LED backlit
- Viewing area: 2.4”
- Display resolution: 128x64 pixels

Keyboard

- 20 keys (10 function, 10 alphanumeric)
- Key type: metal dome, sealed membrane switch

Communication

- One isolated RS485 serial port
- -7 to +12VDC differential maximum voltage limits
- 9600 baud rate
- Supports up to 200 VariPhase/ACM addresses
- Twisted pair (cat5e) cable
- MODBUS (master)
- Ethernet (ACC7022 only)
  - MODBUS TCP/IP
  - OPC server
  - Optional BACNET IP

I/Os

Digital Inputs (BMS or External Device)

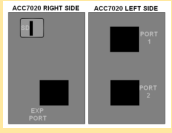
- 1 N.O. digital input for emergency stop
- 1 N.O. digital input for standby mode
- Input voltage: 24VDC
  - 0-5VDC for Logic ‘0’
  - 17-28.8VDC for Logic ‘1’

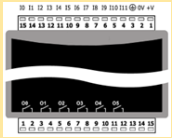
Relay Output (BMS or External Device)

- 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%





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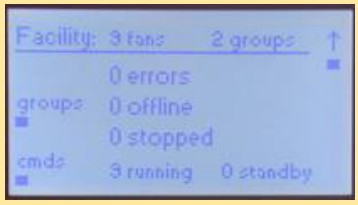
Example Screens

Main Screen

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

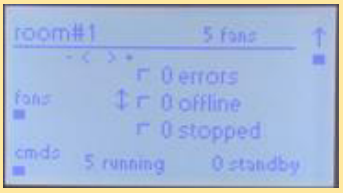
Facility Control

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 in standby. So long as the alarm is activated, if an error is found at anytime, the alarm will turn on, and the screen will automatically go to the Facility Overview screen.



Group Control

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

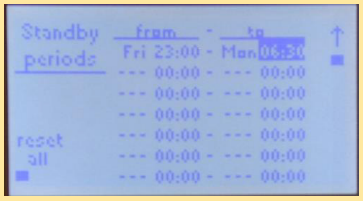


Fan/Unit Control

ECM (DC Brushless - ACMXXX) fan control screen shows the fan number, fan status, and group assignment. The fan's current setpoint (0-100%) and RPM value are shown (along with high/low limits). The fan's running speed can be adjusted by pressing the button. AC fan control 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.

Seven-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.



Mechnical Dimensions