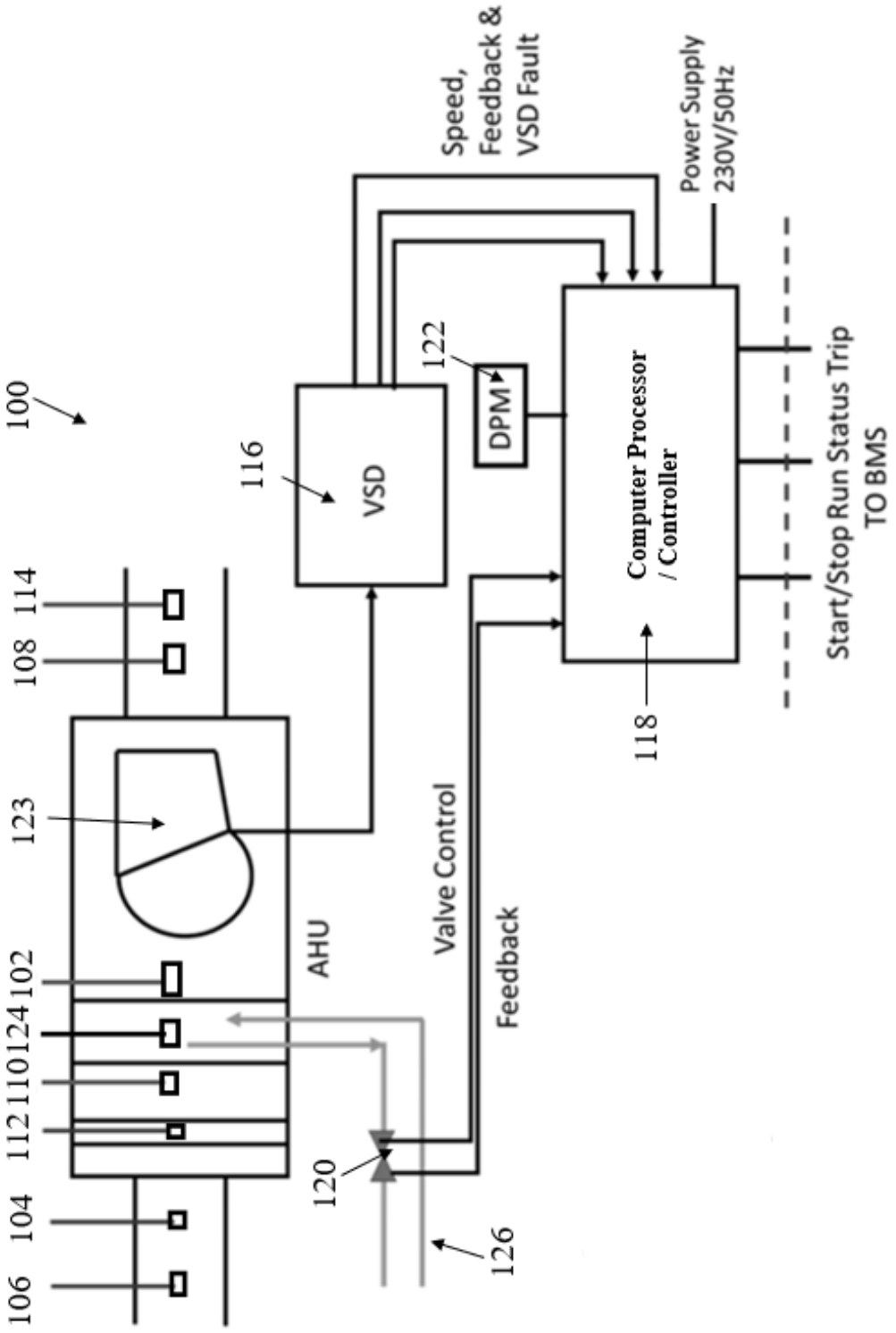

100
116
VSD
122
DPM
Speed,
Feedback &
VSD Fault
Power Supply
230V/50Hz
Computer Processor
/ Controller
118
Start/Stop Run Status Trip
TO BMS
114
108
123
102
124
110
112
104
106
AHU
Valve Control
Feedback
120
126

FIG.1

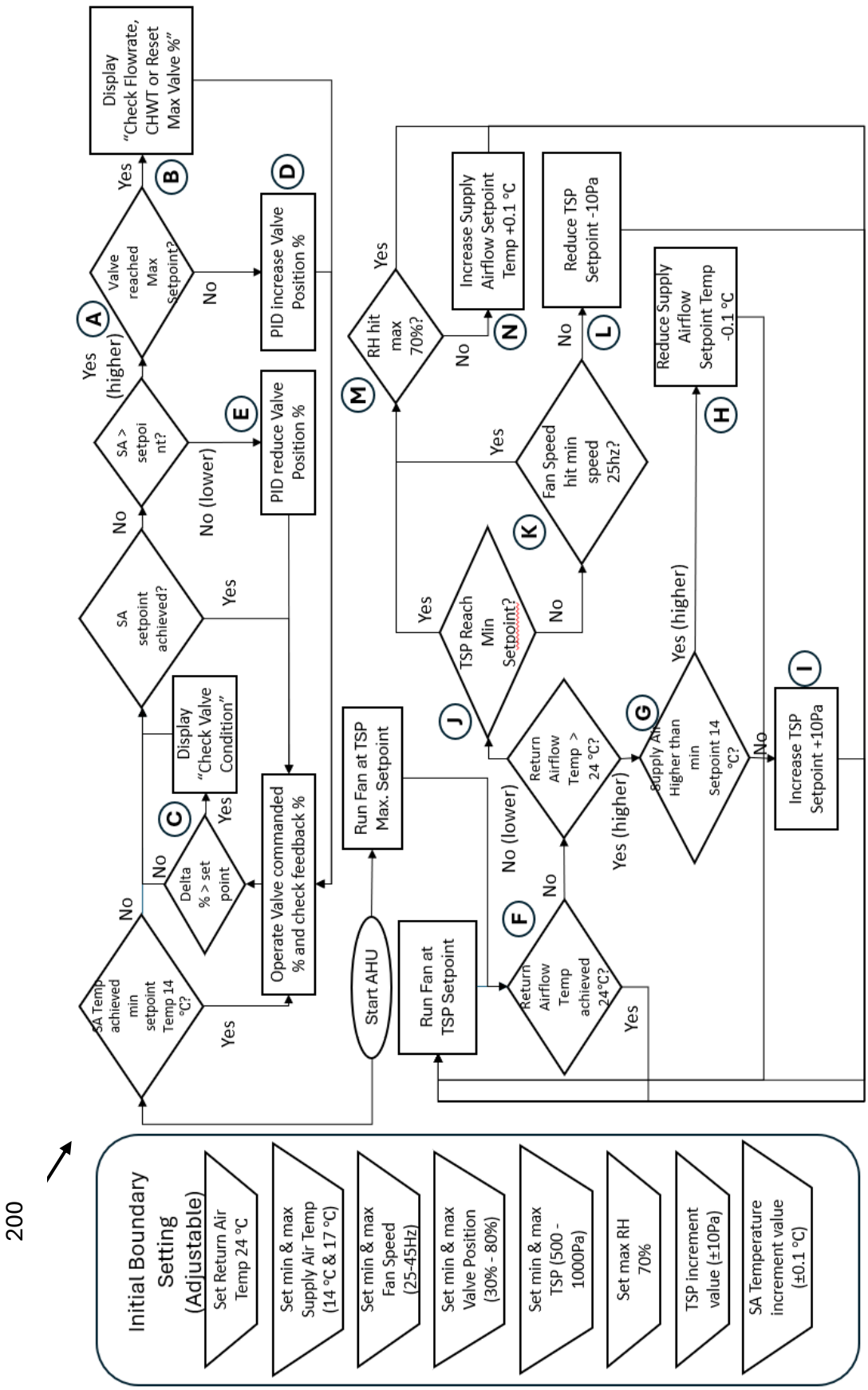

200
Initial Boundary Setting (Adjustable)
Set Return Air Temp 24 °C
Set min & max Supply Air Temp (14 °C & 17 °C)
Set min & max Fan Speed (25-45Hz)
Set min & max Valve Position (30% - 80%)
Set min & max TSP (500 - 1000Pa)
Set max RH 70%
TSP increment value (±10Pa)
SA Temperature increment value (±0.1 °C)
Start AHU
Run Fan at TSP Setpoint
Run Fan at TSP Max. Setpoint
SA Temp achieved min setpoint Temp 14 °C?
Yes
No
Operate Valve commanded % and check feedback %
Delta % > set point
Yes
No
C
Display "Check Valve Condition"
SA setpoint achieved?
Yes
No
SA > setpoint?
Yes (higher)
No (lower)
A
Valve reached Max Setpoint?
Yes
No
B
Display "Check Flowrate, CHWT or Reset Max Valve %"
PID increase Valve Position %
D
PID reduce Valve Position %
E
Return Airflow Temp achieved 24°C?
Yes
No
F
Return Airflow Temp > 24 °C?
Yes (higher)
No (lower)
G
Supply Air Higher than min Setpoint 14 °C?
Yes (higher)
No
H
Increase TSP Setpoint +10Pa
I
TSP Reach Min Setpoint?
Yes
No
J
Fan Speed hit min speed 25hz?
Yes
No
K
Reduce Supply Airflow Setpoint Temp -0.1 °C
Reduce TSP Setpoint -10Pa
L
RH hit max 70%?
Yes
No
M
Increase Supply Airflow Setpoint Temp +0.1 °C
N

FIG.2

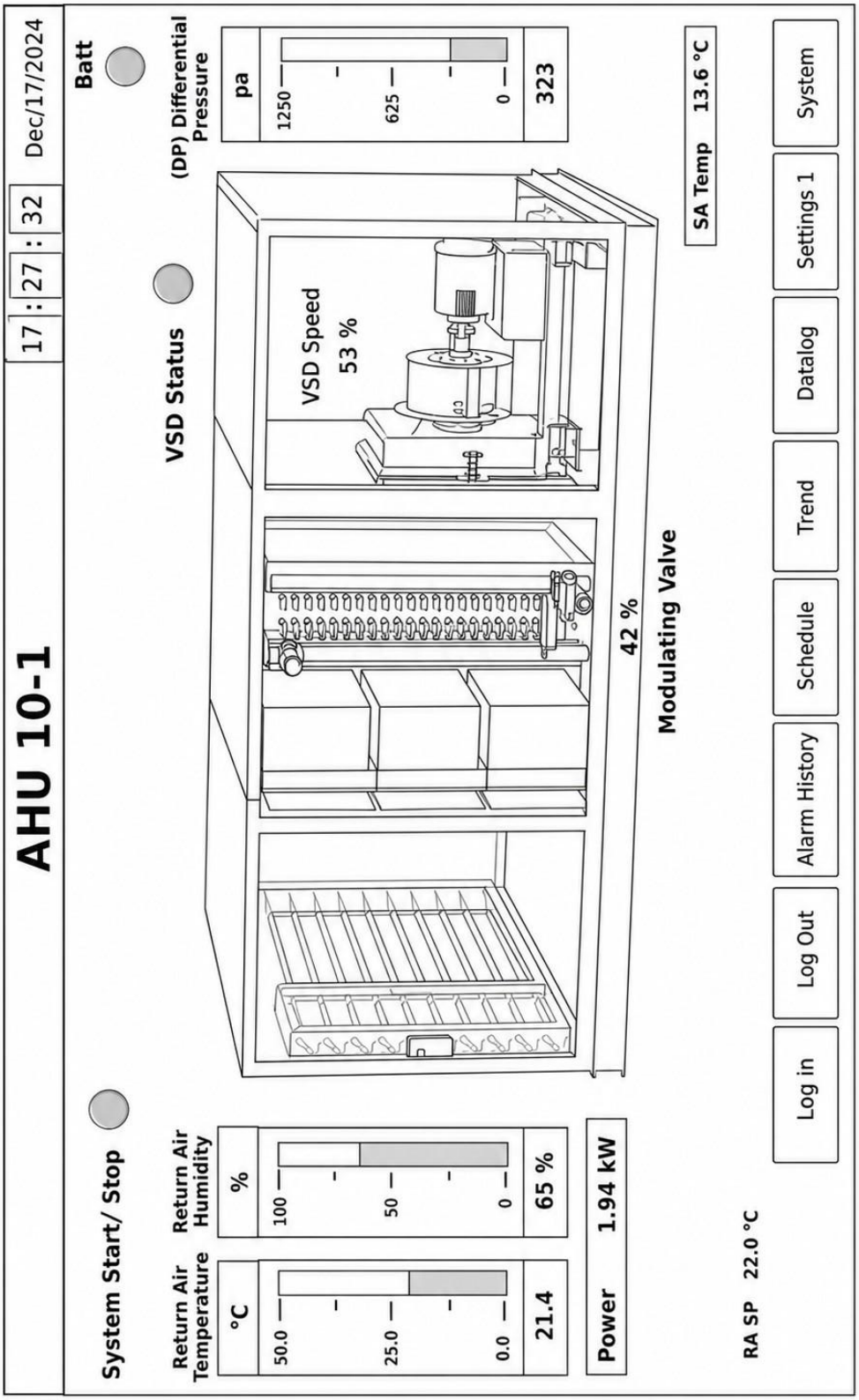

AHU 10-1
17 : 27 : 32
Dec/17/2024
Batt
System Start/ Stop
VSD Status
(DP) Differential Pressure
pa
1250
625
0
323
Return Air Temperature
°C
50.0
25.0
0.0
21.4
Return Air Humidity
%
100
50
0
65 %
VSD Speed
53 %
SA Temp 13.6 °C
Power 1.94 kW
42 %
Modulating Valve
RA SP 22.0 °C
Log in
Log Out
Alarm History
Schedule
Trend
Datalog
Settings 1
System

FIG.3

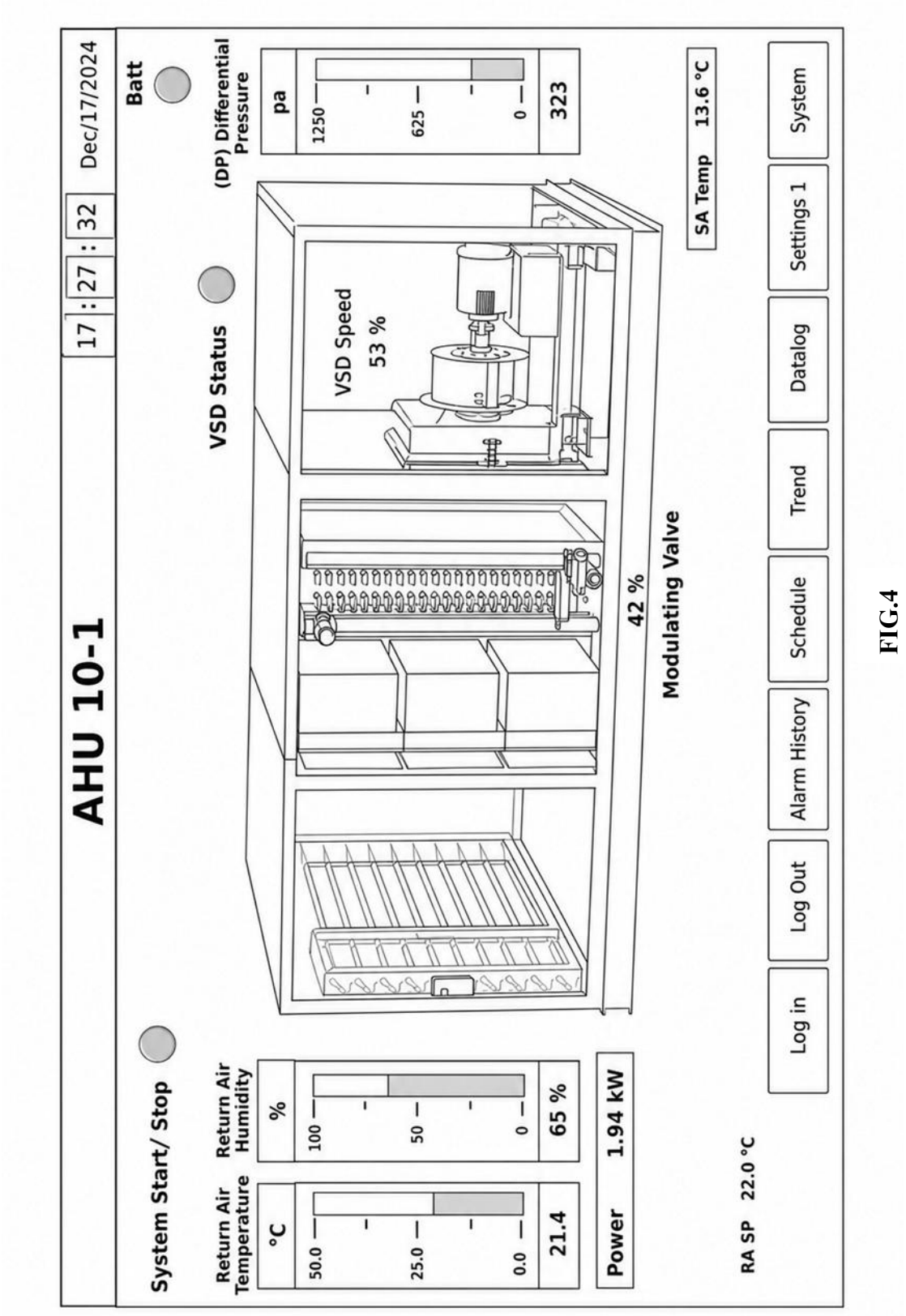

AHU 10-1
17 : 27 : 32
Dec/17/2024
Batt
System Start/ Stop
VSD Status
(DP) Differential Pressure
pa
1250
625
0
323
Return Air Temperature
°C
50.0
25.0
0.0
21.4
Return Air Humidity
%
100
50
0
65 %
VSD Speed
53 %
Power 1.94 kW
42 %
Modulating Valve
SA Temp 13.6 °C
RA SP 22.0 °C
Log in
Log Out
Alarm History
Schedule
Trend
Datalog
Settings 1
System

FIG.4