Setup and Operation of AptiVolt Modules

1 Introduction

All Autonnic modules in the AptiVolt range have operational interaction. In general interaction is needed only for:

- Initial set-up
- Fault clearance

Each module has options which can be set using the front-panel button in the lower right-hand corner of the display. The display will change so as to assist the set-up.
During operation a fault might occur. This is likely to be due to overheating or over current.
The modules should be installed [see the Planning Your Installation document] in a well-ventilated place. But sometimes this can be heated by poor placement near the engine or where sunlight can heat them. Also in conditions of over-current. Each module monitors its own current and will shut down if this is exceeded.

Each module has a common normal operation set of LEDs:
Power on – green
Running – yellow
Heartbeat – flashing blue
Fault – red

In addtion each has a set of 5 LED which indicate the amount of current the module is handling. In the case of the VAS11 and VAS45 this is expressed as % of full rating. For the VAR20 the LEDs show the current in Amps. The 5 LEDs are brightness modulated to allow interpretation of currents in a continuous manner.
The intention is that a glance at the panels will show which battery is being charged and by how much and where that power is coming from.

2 VAR20

The VAR20 set-up allows for the setting of both battery type and for the setting of its priority level. The default is for Gel Lead-Acid and High Priority.

The state diagram shows the options which can be set using the display and button.

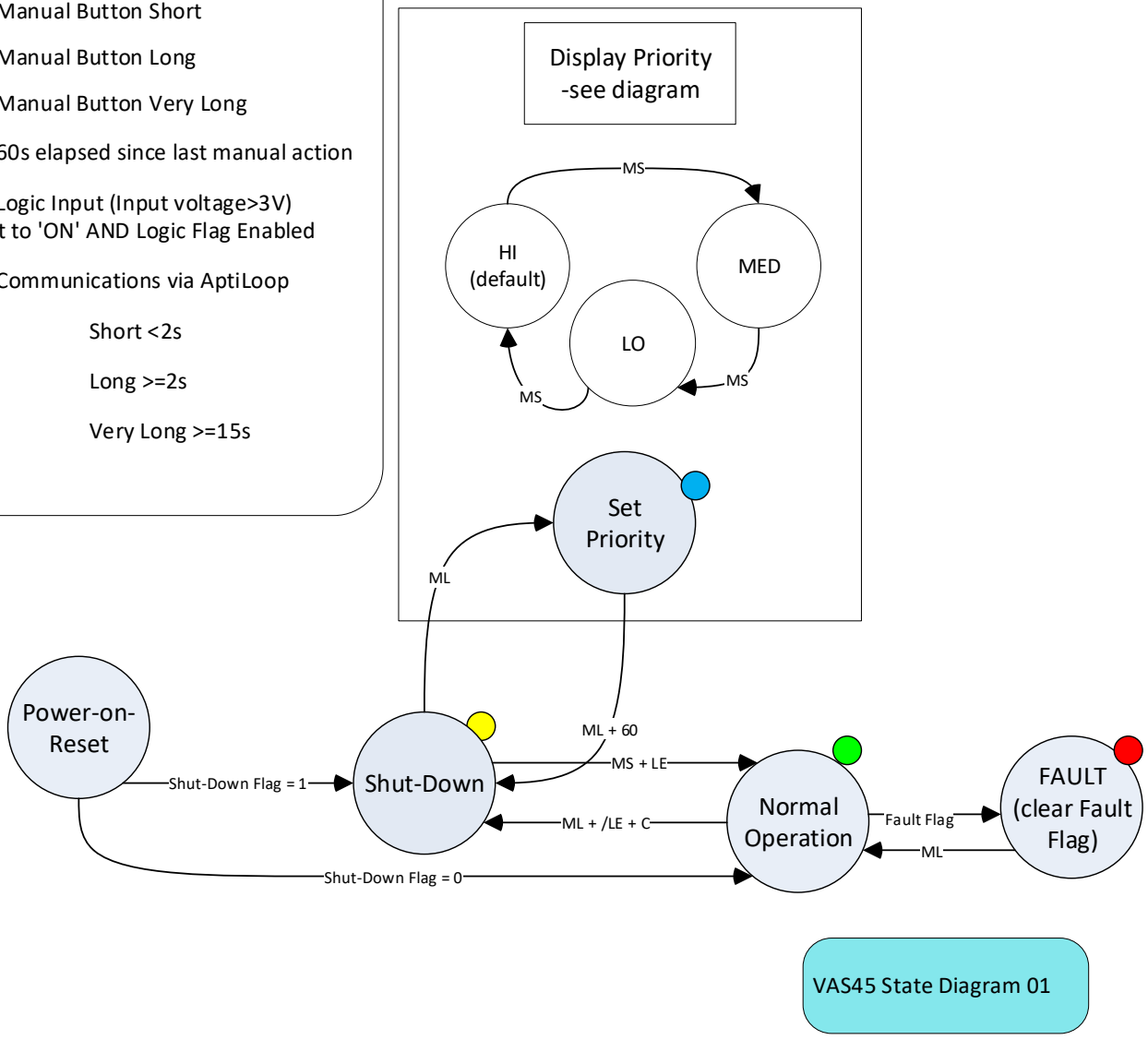
VAR20 State Diagram 01
Display Chemistry -see diagram
WET
LI
FE
AGM
GEL (defaul t)
MS
Set Chemistry
FAULT (clear Fault Flag)
Fault Flag
ML
Display Priority -see diagram
MED
LO
HI (default)
Set Priority
ML + 60
Normal Operation
MS + LE
ML + /LE + C
60
Shut-Down
Shut-Down Flag = 0
Shut-Down Flag = 1
Power-on-Reset
KEY
MS Manual Button Short
ML Manual Button Long
MVL Manual Button Very Long
60 60s elapsed since last manual action
LE Logic Input (Input voltage>3V) equivalent to 'ON' AND Logic Flag Enabled
C Communications via AptiLoop
where Short <2s
Long >=2s
Very Long >=15s

3 VAS45

The basic set-up is of the Priority. The Operation is in common with all AptiVolt modules.

KEY

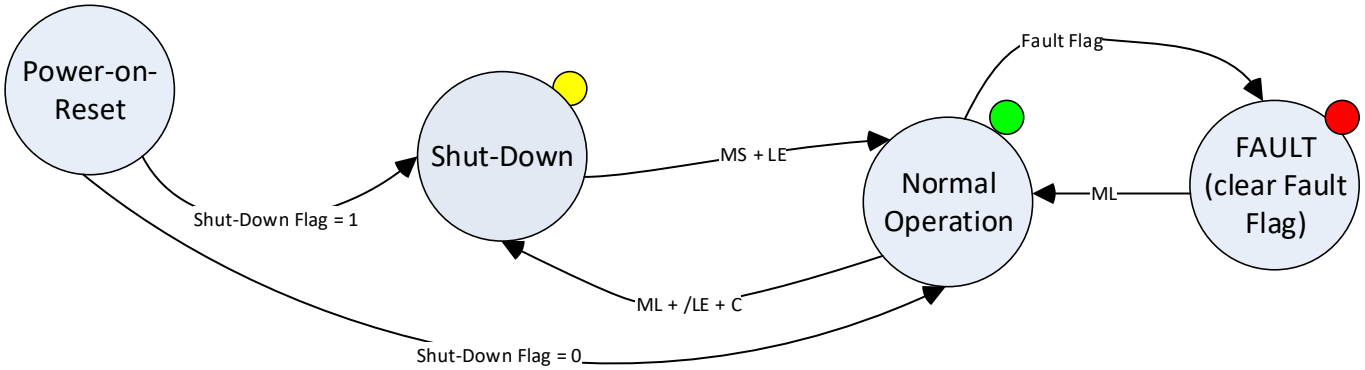
MS	Manual Button Short
ML	Manual Button Long
MVL	Manual Button Very Long
60	60s elapsed since last manual action
LE	Logic Input (Input voltage>3V) equivalent to 'ON' AND Logic Flag Enabled
C	Communications via AptiLoop
where	Short <2s
	Long >=2s
	Very Long >=15s



VAS45 State Diagram 01

4 VAS11

The VAS11 has no set-up. When power is applied (the sun shines!) it will go to the normal operation state and stay there. A fault will set the Fault flag, show the Red LED and stop the heartbeat.



KEY

MS	Manual Button Short
ML	Manual Button Long
MVL	Manual Button Very Long
60	60s elapsed since last manual action
LE	Logic Input (Input voltage>3V) equivalent to 'ON' AND Logic Flag Enabled
C	Communications via AptiLoop
where	Short <2s
	Long >=2s
	Very Long >=15s

end