

ShowMode LED States Reference

Legend: Red Blue Green Off | → next phase | / or (context-dep.)

OPERATIONAL STATES

LED_PREINIT

A: varies (request)

B: varies (battery)

5ms loop | Context-dependent

LED_INIT

A: varies (request)

B: varies (battery)

5ms loop | Context-dependent

LED_RUNNING

A: request activity

A+B: Green blink (startup, 252 iter)

5ms loop

LED_LOCKABLE

A: request activity

B: Green solid

5ms loop

LED_INIT_SHUTDOWN

A: request activity

B: Blue solid

5ms loop

LED_NORMAL_SHUTDOWN

A: 500ms → 250ms → 500ms → 250ms

B: 500ms → 250ms → 500ms → 250ms

1500ms/cycle | ×3 then idle

SPA2 STATES

LED_SPA2_START_SEQ

A: Green solid

B: Off

5ms loop

LED_SPA2_NORMAL

A: —

B: Green solid

5ms loop

LED_SPA2_SHOWMODE

A: —

B: Blue solid

5ms loop

LED_SPA2_ERROR

A: —

B: Red solid

5ms loop

LED_SPA2_ERROR_STOP

A: 500ms → 500ms

B: 500ms → 500ms

1000ms | Continuous

LED_SPA2_STOP_SEQ

A: Off

B: —

5ms loop

LED_SPA2_DISABLE_LEDS

A: Off

B: Off

5ms loop

ERROR STATES

LED_SAG2_ERROR

Phase 1: A: B: 500ms on / 500ms off

Phase 2: A: B: 500ms on / 500ms off

2000ms | Continuous

LED_12VBAT_WARNING

A: 500ms → 500ms

B: 500ms → 500ms

1000ms | Continuous

LED_12VBAT_FAILURE

Phase 1: A: B: 500ms on / 500ms off

Phase 2: A: B: 500ms on / 500ms off

2000ms | Continuous

LED_400VBAT_FAILURE

A: 500ms → 500ms

B: 500ms → 500ms

1000ms | Continuous

LED_48VBAT_FAILURE

A: 500ms → 500ms

B: 500ms → 500ms

1000ms | Continuous

LED_TCAMBAT_FAILURE

A: 500ms → 500ms

B: 500ms → 500ms

1000ms | Continuous

LED_VGM_NOT_UNLOCKABLE

A: 125ms → 125ms ×3

B: 125ms → 125ms ×3

1250ms (750ms blink + 500ms pause)

LED_NOT_SUPPORTED

A: ON 500ms → OFF 500ms

B: OFF 500ms → ON 500ms

1000ms | Red alternates A → B

LED_WIPER_STALK

A: ON 500ms → OFF 500ms

B: OFF 500ms → ON 500ms

1000ms | Blue alternates A → B

LED_UM_FAILURE

A: 250 → 250 → 250 → 250ms

B: 250 → 250 → 250 → 250ms

1000ms | Continuous

LED_SPEED_FAILURE

A: 250 → 250 → 250 → 250ms

B: 250 → 250 → 250 → 250ms

1000ms | Continuous

DEBUG & DIAGNOSTIC STATES

LED_DEBUG1

A: Blue solid

B: Blue solid

5ms loop

LED_DEBUG2

A: Red solid

B: Red solid

5ms loop

LED_DEBUG3

A: Green solid

B: Green solid

5ms loop

LED_NO_CONNECTION

A: Firmware version blink (binary, Gm/Blu)

B: —

One-shot then idle