## 7. STAND-BY ERROR LED BLINKING Table

### LED flashing specification at the time of the error

Display method

- Refer to Table 1.

- Make the OPC LED flash using the [MENU] key on the remote control since the display for service persons is identified by the number of flashings (once to 5 times).

- Even if the [MENU] key is pressed again, it does not return to the display for customers (only the power LED flashes).

- After recovering from an error, if the same error cannot be generated again, refer to MONITOR ERR CAUSE on the adjustment process screen.

LED flashing method

- Synchronize the phases of the power LED and OPC LED.

- If the LEDs have different number of flashings, adjust the flashing cycle to that where the LED flashes more times.

<Flashing example for customers>

Power

1500ms

300ms
300ms

<Flashing example for service persons>

Power

OPC
(Displayed by the
specific operation)

1500ms

300ms
300ms

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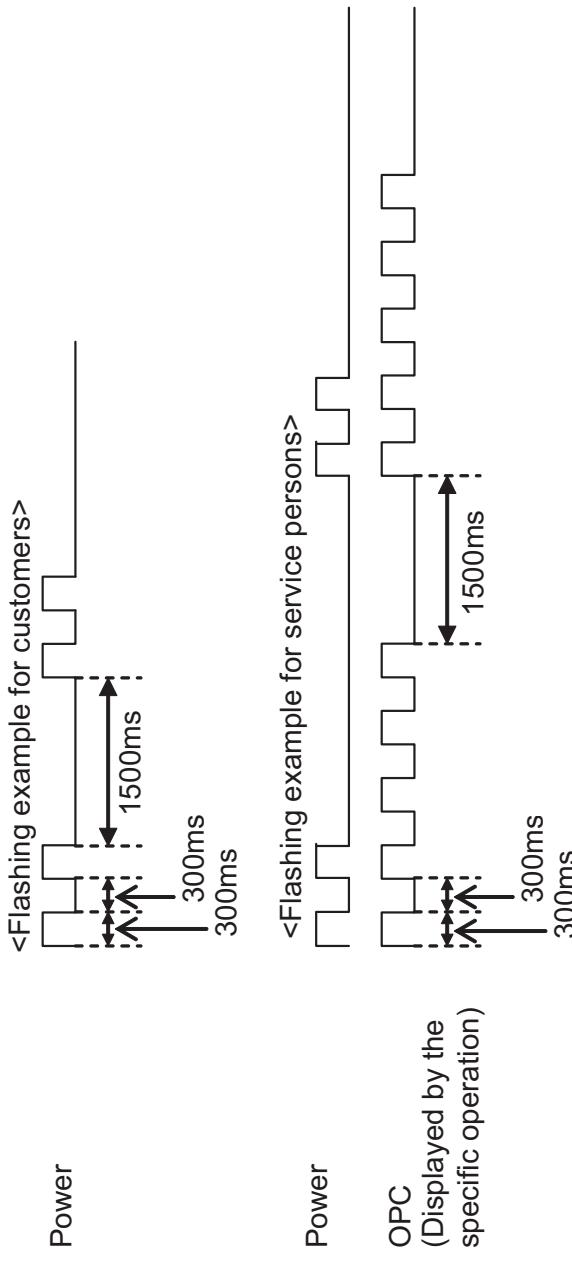
# 4. Service Mode (continued)

## 7. STAND-BY ERROR LED BLINKING Table (continued)

Table 1. Concrete flashing pattern

| Item | For customers | | For service persons | | Cause |
|---|---|---|---|---|---|
| | Power | OPC | Power | OPC | |
| Inverter/Lamp system failure | Red flashes once | Off | Red flashes once | Flashes once | Lamp error |
| Power PWB failure (Power failure, etc.) | Red flashes twice | Off | Red flashes twice | Flashes once | AC_DET error |
| | | | | Flashes twice | UR+13.5V error |
| | | | | Flashes 3 times | D3.3V error |
| | | | | Flashes 5 times | Panel power supply error |
| Main PWB failure (Communication failure, etc.) | Green flashes once | Off | Green flashes once | Flashes once | Initial communication error |
| | | | | Flashes twice | Start-up confirmation communication error |
| | | | | Flashes 3 times | Regular communication error |
| | | | | Flashes 5 times | Other communication error |
| Others | Green flashes twice | Off | Green flashes twice | Flashes once | Temperature error |
| | | | | Flashes twice | Sync error |
| | | | | Flashes 3 times | Notification from the main microprocessor (*1) |
| VerUP executing | Orange flashes once | Off | Orange flashes once | Off | Version upgrading |
| VerUP succeeded | Power green/OPC flash alternately | | Power green/OPC flash alternately | | Version upgrade succeeded |
| VerUP failed | Green/Red flash alternately | Off | Green/Red flash alternately | Off | Version upgrade failed |
| System | Red flashes 3 times | Off | Red flashes 3 times | Off | Mounting discrimination connector unplugged |
| ROM data failure | Green/Red flash alternately | Off | Green/Red flash alternately | Off | Start-up after failing version upgrade (*2) |

\* 1: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen. To activate the OPC LED, press the MENU key of R/C.

\* 2: If the boot section is abnormal, there is no flashing (flashing disabled).

# 4. Service Mode (continued)

## 8. Monitor ERROR Cause List

MONITOR ERR STBY table

Outline: Communication / Power failure detected by the monitor microprocessor, IC2003 for DH77 and, IC2002 for DH77 (C), is stored on EEPROM, and the last 4 abnormal states can be confirmed in the adjustment process mode.

Location: Page 1/16 of the adjustment process mode: MONITOR ERR CAUSE
"0" if there is no error. It is cleared to 0 on the last page of the adjustment process mode.

| Display | Error description |
|---------|-------------------|
| 02 | Start-up communication error 2 | Initial communication from the main CPU is not received. |
| 03 | Start-up communication error 3 | Only the initial communication is received. |
| 04 | Start-up communication error 4 | Until panel information request reception |
| 05 | Start-up communication error 5 | Until initialization completion reception |
| 06 | Start-up communication error 6 | Until version notification transmission |
| 07 | Start-up communication error 7 | Until start-up information notification transmission |
| 08 | Start-up communication error 8 | Until start-up information response reception |
| 09 | Start-up communication error 9 | Until time-out setting reception |
| 0A | Communication error A | REQ time-out |
| 0B | Communication error B | Restart time-out during the beginning of time acquisition start-up |
| 0C | Communication error C | Ending sequence time-out |
| 0D | Communication error D | Preset start-up time-out during completion |
| 0E | Communication error E | Download start-up time-out |
| 0F | Communication error F | Time acquisition time-out |
| 11 | Communication error H | Regular communication time-out |
| 16 | Panel-related error | Lamp failure |
| 1A | Other error 2 | Monitor temperature failure |
| 1D | Power supply error 1 | PS_ON(AC_DET) failure |
| 1E | Power supply error 2 | D_POW(DET_12V) failure |
| 1F | Power supply error 3 | D_POW(DET_D3V3) failure |
| 21 | Power supply error 5 | Panel power failure |
| 23 | Other error 3 | Error standby request from the main CPU |

LED flashing timing chart at the time of the error

## 8. Monitor ERROR Cause List (continued)

1) Power LED

| Error type | Power LED operation (1 cycle) | Note: Pins are monitor microprocessor pins (IC2003). |
|---|---|---|
| Inverter/Lamp failure Red flashes once | H: Red on  L: Off | Refer to "Inverter/Lamp failure details". OPC_LED flashes by pressing the [MENU] key on the remote control. |
| Power failure Red flashes twice | H: Red on  300mS  1.5sec  L: Off | Refer to "Power failure details". OPC_LED flashes by pressing the [MENU] key on the remote control. |
| Communication failure with main CPU Green flashes once | H: Green on  L: Off | Refer to "Communication failure details". OPC_LED flashes by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure. |
| Others Green flashes twice | H: Green on  L: Off | Refer to "Other failure details". OPC_LED flashes by pressing the [MENU] key on the remote control. |
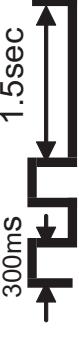
## 8. Monitor ERROR Cause List (continued)

2) Inverter/Lamp failure details (Power red LED flashes once and OPC (preset) LED flashes)

| Error type | OPC (preset) LED operation (1 cycle) | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2003). |
|---|---|---|
| Lamp failure Flashes once | H: On / L: Off | ERR_PNL(40pin): Abnormal L. Confirmed after 5 consecutive detections at 1 second intervals (detected only when the backlight is on). Note that after five detection counts, the lamp cannot be activated except in the monitoring process. (For the first time, only the inverter is reset, and error OFF is not activated.) Accumulated counts are cleared to 0 when the setting in the adjustment process is made, when AC_ON is performed with [CH_DOWN] and [VOL_UP] on the unit down or after continuous illumination for 3 minutes. |

3) Power failure details (Power red LED flashes twice and OPC (preset) LED flashes)

| Error type | OPC (preset) LED operation (1 cycle) | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2003). |
|---|---|---|
| PS_ON AC_DET failure Flashes once | H: On / L: Off | AC_DET(72pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing). |
| D_POW Main 12V failure Flashes twice | H: On / L: Off | DET_12V(34pin): Abnormal (L). Main 12V is not applied. If error is detected during start-up or operation, the power is turned on again by polling. |
| D_POW Digital 3.3V Failure Flashes 3 times | H: On / L: Off | DET_D3V3(35pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling. |

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## 8. Monitor ERROR Cause List (continued)

4) Communication failure details (Power green LED flashes once and OPC (preset) LED flashes)

| Error type | OPC (preset) LED operation (1 cycle) | Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor. |
|---|---|---|
| Initial communication reception failure Flashes once | H: On   L: Off | Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure |
| Start-up confirmation reception failure Flashes twice | H: On   L: Off | Start-up reason confirmation from the main CPU cannot be received. (Start-up communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure |
| Regular communication failure Flashes 3 times | H: On   L: Off | Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure |
| Other communication failure Flashes 5 times | H: On   L: Off | When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure |
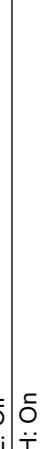
5) Other failure details (Power green LED flashes twice and OPC (preset) LED flashes)

| Error type | OPC (preset) LED operation (1 cycle) | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2003). |
|---|---|---|
| Monitor temperature failure Flashes once | H: On   L: Off | If the panel temperature is 60°C or more for 15 seconds or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25 seconds or more in a row, error standby is activated. (MONITOR MAX TEMP on page 13/16 of the adjustment process: Change of temperature failure AD value): Thermistor |
| Main failure Flashes 3 times | H: On   L: Off | Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page 1/16 of the adjustment process for the main microprocessor. |

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