"Lilly" Project – Detailed View (v1)

By Bill Weis

Requirements:

1. Be able to use voice commands to control her full electric Drive bed

Solution – High Level:

1. Developed and provided a voice activated bed controller so "Lilly" could control her full electric Drive bed using both Alexa and Google
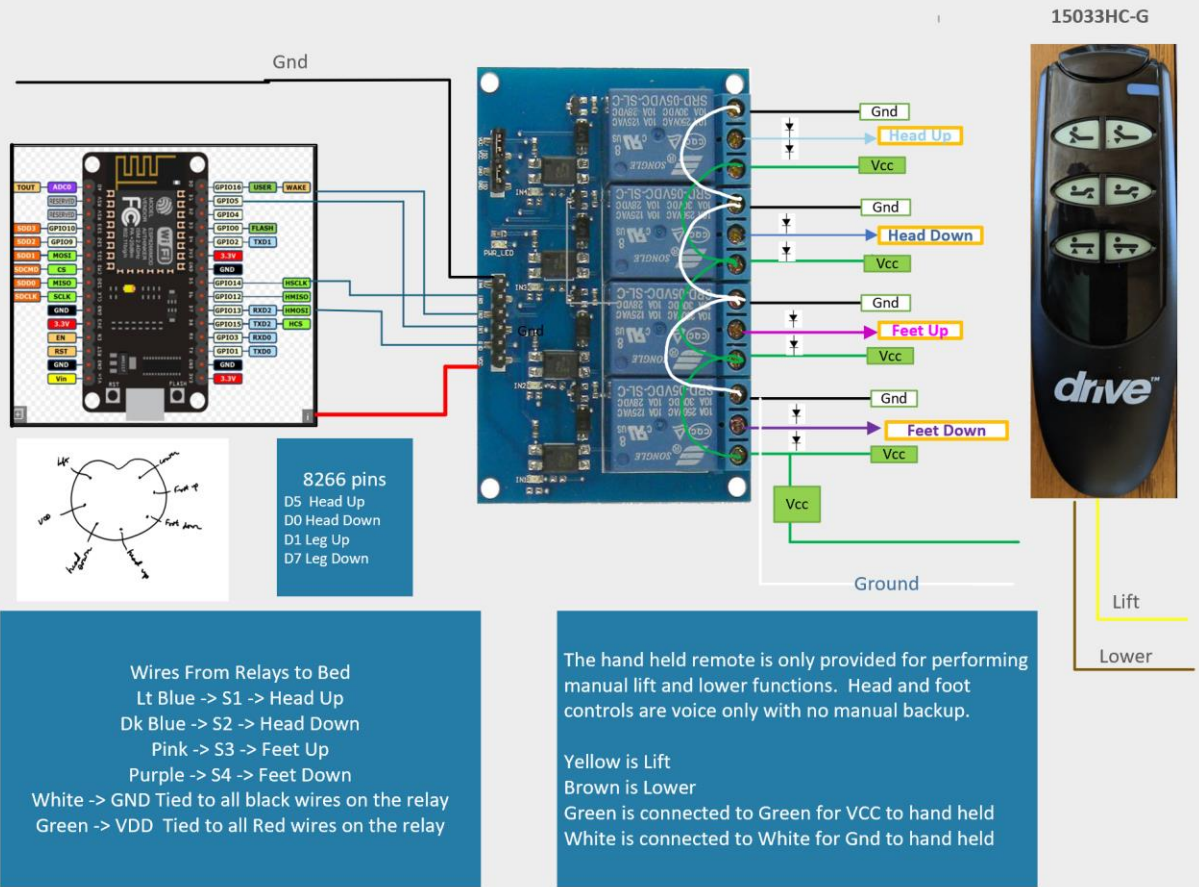
Details of the Solution

1. **Voice Control her bed –** With the Drive beds, motor current is passed through the hand held remote and it takes a combination of two switches to perform each function. This bed design is much more difficult to provide a backup (hand held remote) solution, so the approach we took is when the internet goes down, someone will need to replace the bed controller with the original handheld pendant. One of our Drive bed customers has had this same design approach for more than a year with no complaints.

   The Drive bed with pendant 15033HC-G is fully electric in that it has head up/down, foot up/down, as well as bed up/down. For safety reasons, we do not provide voice commands for bed up/down and we instead provide a wired pendant into our bed controller so the caregiver can continue to manually control bed up/down features the same way they would prior to the voice activated bed controller being installed. "Lilly" can voice control her bed from both Alexa and Google.

   To prolong the life of the relays, flyback diodes were added.

   The voice activated bed controller design can be found on the next page.

"Lilly" - Drive Full Electric Bed with remote 15033HC-G
Bill Weis 3/25/19 S/N 19039.03

15033HC-G

Gnd

Gnd
Head Up
Vcc

Gnd
Head Down
Vcc

Gnd
Feet Up
Vcc

Gnd
Feet Down
Vcc

Vcc

Ground

drive

Lift

Lower

8266 pins
D5 Head Up
D0 Head Down
D1 Leg Up
D7 Leg Down

Wires From Relays to Bed
Lt Blue -> S1 -> Head Up
Dk Blue -> S2 -> Head Down
Pink -> S3 -> Feet Up
Purple -> S4 -> Feet Down
White -> GND Tied to all black wires on the relay
Green -> VDD Tied to all Red wires on the relay

The hand held remote is only provided for performing manual lift and lower functions. Head and foot controls are voice only with no manual backup.

Yellow is Lift
Brown is Lower
Green is connected to Green for VCC to hand held
White is connected to White for Gnd to hand held

Resources
Amazon Echo
Alexa Support   (Contact Support via the Amazon Alexa app - can have them call your number)
Google Home getting started
Google Home Help Forum
Google Home Support   Phone number for Google Home hardware support = 855-971-9121 (24/7 days a week)
Logitech Harmony Knowledge Base
Logitech Harmony Support Phone # for Support = 866-601-5644 (M-F 8am to 6pm PST)
Lifx
Wemo Support Phone number for Support = 1-844-745-wemo (9366)