LX890 V1.1

Display Cable

3v3	1	2	**CLK** -> D14 #2 (brown)	
SW *(I/O Btn)* -> Opto -> D27 #- (orange)	3	4	**GND** -> GND #3 (black)	
5V -> Vin #1 (red)	5	6	**DIO** *(Data)* -> D13 #4 (white)	
BUZ [	7	8	**GND**	
ST1 *(Stop)* --> **ST2** [	9	10	**SDA** *(I2C)*	
(Stop) -> D26 #5 (gray)	11	12	**STR** *(Start Btn)* -> D25 #6 (violet)	
OK *(OK Btn)* -> D33 #7 (blue)	13	14	**SCL** *(I2C)*	
STB *(CS)* -> D15 #8 (green)	15	16	**HOME** *(Home Btn)* -> D32 #9 (yellow)	

Stop Button Cable

- JIABEN FA7-6K-2100 Trigger switch
- 5V 1mA
- DPNO Hall Signal

cable	1	2	3	4
color	red	yellow	blue	black
signal	3v3	ST1	ST2	GND
release		0V	0V	
press		3v3	3v3	

Power Off

```
SW: 20V
all other: 0V
```

Power On

```
SW: 3V (released) / 0V (pressed)
OK: 3V (released) / 0V (pressed)
STR: 3V (released) / 0V (pressed)
HOME: 3V (released) / 0V (pressed)
```

```
BUZ: 0V / 3V @ 2.5kHz
ST1 & ST2: 0V (released) / 3V (pressed)
```
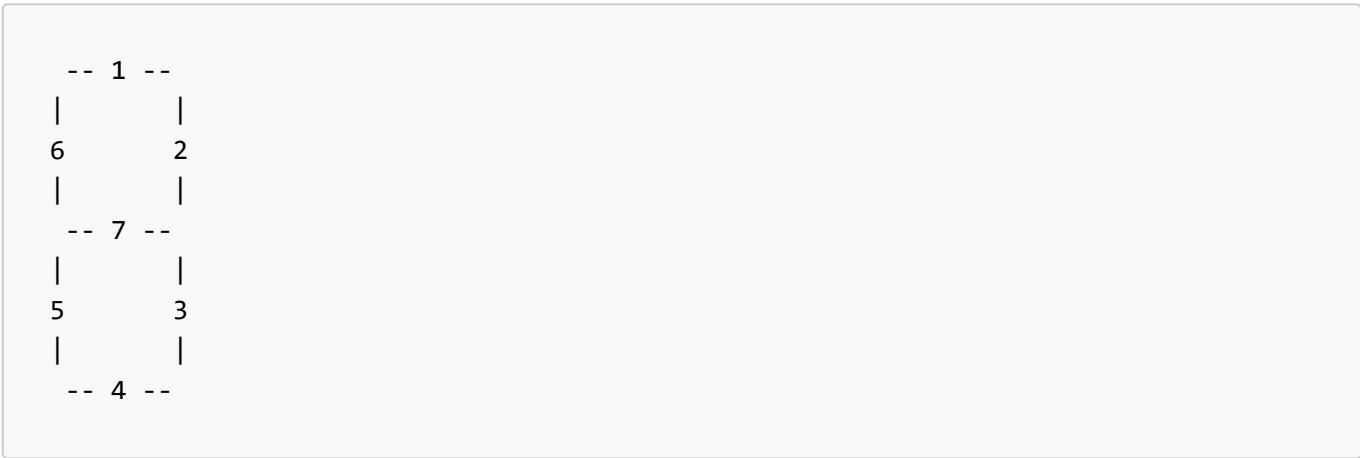
Display Controller: TM1668

Display Protocol

- SPI mode: 0 / LSB
- CLK: *Clock 100kHz*
- DIO: *Data In/Out*
- STB: *Chip Select*

Segments

```
    -- 1 --
   |       |
   6       2
   |       |
    -- 7 --
   |       |
   5       3
   |       |
    -- 4 --
```

- SEG1 0x01
- SEG2 0x02
- SEG3 0x04
- SEG4 0x08
- SEG5 0x10
- SEG6 0x20
- SEG7 0x40

Examples

"-E6-"

Seq.	Raw	Command Description
1.1	88 / 8E	Display Control: dimmed / bright
2.1	03	Mode Setting: 7 Grids, 11 Segments
3.1	40	Data Setting: write, auto increment, normal operation
4.1	C0	Address Setting: 0
4.2	66	

Seq.	Raw	Command Description
4.3	00	
4.4	60	
4.5	00	
4.6	64	
4.7	00	
4.8	26	
4.9	00	
4.10	26	
4.11	00	
4.12	26	
4.13	00	
4.14	0F	
4.15	00	

"*-E1-*"

Seq.	Raw	Command Description
1.1	8E	Display Control: bright
2.1	03	Mode Setting: 7 Grids, 11 Segments
3.1	40	Data Setting: write, auto increment, normal operation
4.1	C0	Address Setting: 0
4.2	62	
4.3	00	
4.4	64	
4.5	00	
4.6	64	
4.7	00	
4.8	22	
4.9	00	
4.10	22	

Seq.	Raw	Command Description
4.11	00	
4.12	22	
4.13	00	
4.14	0B	
4.15	00	