

Product Transition Guide

Old PN: NHD-C160100DiZ-FSW-FBW_Rev1B | New PN: NHD-C160100DiZ-FSW-FBW_Rev1C

The ST7528i controller IC used in this display has been discontinued by the IC manufacturer. The controller IC on the new version of the LCD has been upgraded to ST75160i. The new IC's instruction set and initialization sequence are different than the previous IC. Details of the changes are described below.

The new version of the display uses the same glass panel and backlight as the previous version. There is a small change to the mechanical dimensions of the FPC, which are detailed below.

The new version of the display does not require external capacitors on pins 8-12. Required capacitors have been added to the FPC as a design improvement for the user. The pins that previously required a capacitor have been changed to no-connect for the user. Details of the pinout change are described below.

The purpose of this document is to highlight and explain the key differences that need to be accounted for when transitioning to the new version of the display.

Design Improvements

- Controller IC upgraded to ST75160i
 - New IC supports additional commands and has better long-term availability
- Pins 8-12 changed to no-connect (Capacitors added to FPC)
 - User does not need to add capacitors externally

Display Models

	NHD-C160100DiZ-FSW-FBW_Rev1B	NHD-C160100DiZ-FSW-FBW_Rev1C
Display Type	FSTN(+)	FSTN(+)
Display Mode	Transflective	Transflective
Resolution	160 x 100	160 x 100
Outer Dimensions	49.2 x 47.6 x 4.0 mm	49.2 x 47.6 x 4.0 mm
Active Area	39.98 x 24.98 mm	39.98 x 24.98 mm
FPC Size & Shape	See below	See below
Pinout	See below	See below
Driver IC	ST7528i	ST75160i
Software Timing	See datasheet	See datasheet
Interface	I ² C	I ² C
LCD Voltage	2.4V – 3.6V	2.6V - 3.6V
Backlight	50mA @ 3.0V	50mA @ 3.0V
Optimal View	6:00	6:00



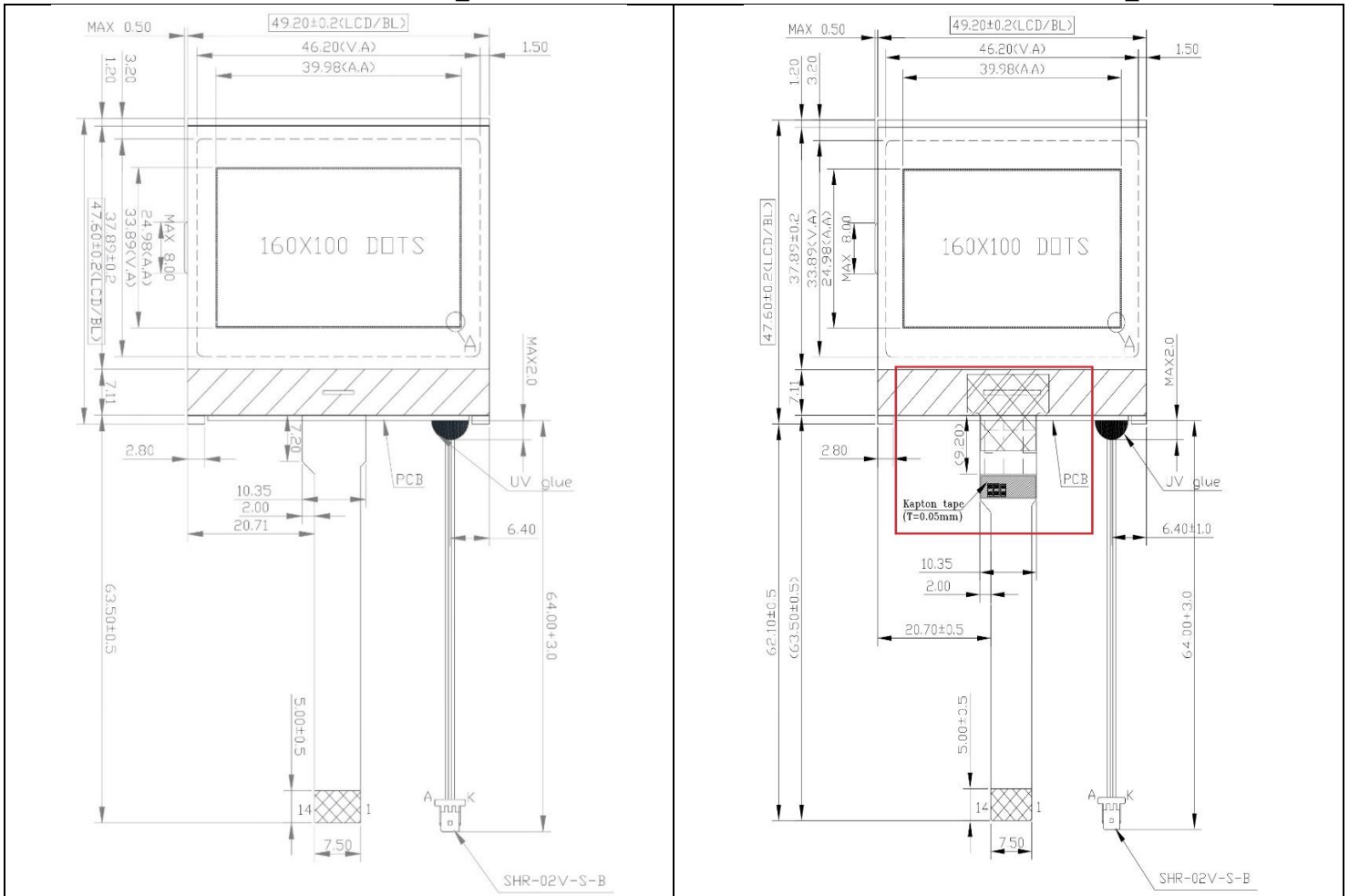
Pinout Comparison

NHD-C160100DiZ-FSW-FBW_Rev1B
NHD-C160100DiZ-FSW-FBW_Rev1C

Pin #	Signal	Signal
1	CSB	NC*
2	RST	RST
3	NC	NC
4	SCL	SCL
5	SDA	SDA
6	VDD	VDD
7	VSS	VSS
8	VOUT	NC
9	V4	NC
10	V3	NC
11	V2	NC
12	V1	NC
13	NC	NC
14	NC	NC

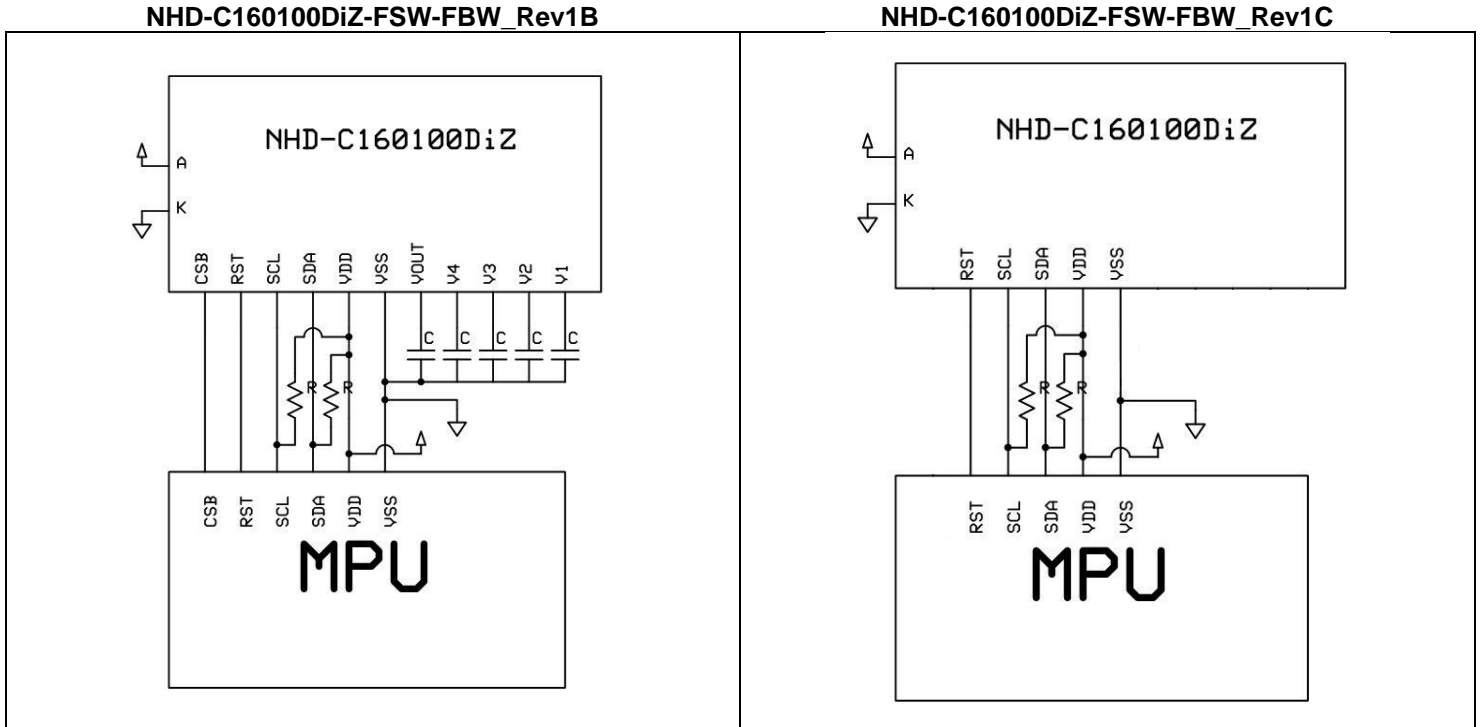
*There is no CSB pin in I²C interface. CSB pin on the ST75160i IC is internally tied LOW.

Mechanical Comparison

NHD-C160100DiZ-FSW-FBW_Rev1B
NHD-C160100DiZ-FSW-FBW_Rev1C


Hardware

➤ Wiring Diagram

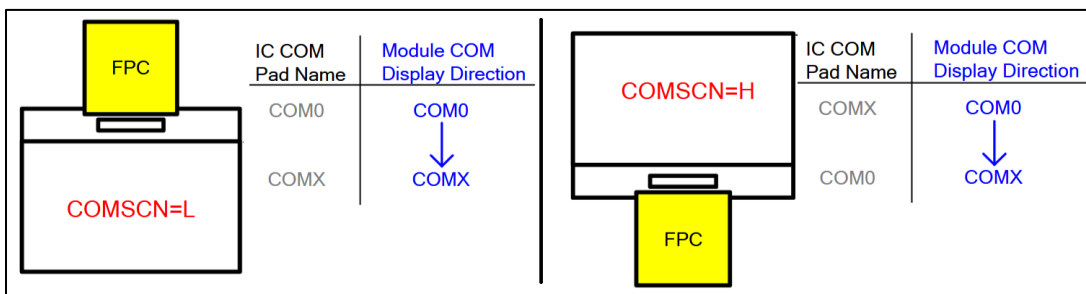


➤ Supply Voltage

- The NHD-C160100DiZ-FSW-FBW_Rev1B display supported a voltage range of **2.4V–3.6V**.
- The new NHD-C160100DiZ-FSW-FBW_Rev1C display supports a voltage range of **2.6V–3.6V**.

➤ COM Output Scanning Direction

- On the NHD-C160100DiZ-FSW-FBW_Rev1B display, the COM output scanning direction is set through software by the “SHL Select” instruction.
- On the NHD-C160100DiZ-FSW-FBW_Rev1C display, the COM output scanning direction is preset through hardware. The COMSCN pin is internally tied LOW on this display. For applications that require COMSCN to be HIGH, please send an email to engineering@newhavendisplay.com.



Software

The new version of the display is not compatible with existing software used to drive the old version. The new IC has a different instruction table and requires a different initialization sequence.

- Initialization
 - Please refer to the initialization section of the [example code](#) for this display
- Instruction Table
 - Please refer to the instruction table on page 55 of the [ST75160i datasheet](#)

For additional support on transitioning to our new COG LCD, or questions about other products, please contact us through any of our technical support channels listed below:

Email: nhtech@newhavendisplay.com

Online Support Center: [Contact an Engineer](#)

Forum: [Community Forum](#)

Phone: (847) 844-8795

