



**POWER & INTERFACE BOARD
FOR E INK SPECTRA-6 31.5" DISPLAY**

Model: SP6-315

Part number : 41602581x-3 or up

INSTRUCTIONS

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It is essential that these instructions are read and understood before connecting or powering up this controller.

Note, June 2024: This is an initial release, further updates are pending.

Introduction

Designed for E Ink Spectra-6 31.5" display applications, the SP6-315 is a feature-rich interface controller for :

- E Ink 31.5" Spectra 6 Model: EL315TW1
- USB-C for data transfer
- Built-in low-power MCU-based system-on-chip (SoC).
- 12V DC via power connector

The SP6-315 board is designed to enable E Ink 31.5" Spectra 6 display systems. The SP6-315 board can be used as a power interface board between a media source, for example, the Digital View STM-100 or a Raspberry Pi, or as a main board using the optional on-board MCU. Please refer to separate user guides for content upload.

Ordering Information :

Controller	Part number	Ordering part number
SP6-315	P/N 41602581x-3	P/N 4160258xx-3

HOW TO PROCEED

- Ensure you have all parts & that they are correct, refer to:
 - Connection diagram

Controller Solution Generator

Full web resource matching controllers & panels with **connection diagrams** for download.
See at : <http://www.digitalview.com/csq>

- Connector reference (in the following section)
 - Connect the parts
 - Understand the operation & functions

IMPORTANT USAGE NOTE

This equipment is for use by developers and integrators, the manufacturer accepts no liability for damage or injury caused by the use of this product. It is the responsibility of the developer, integrators or other user of this product to:

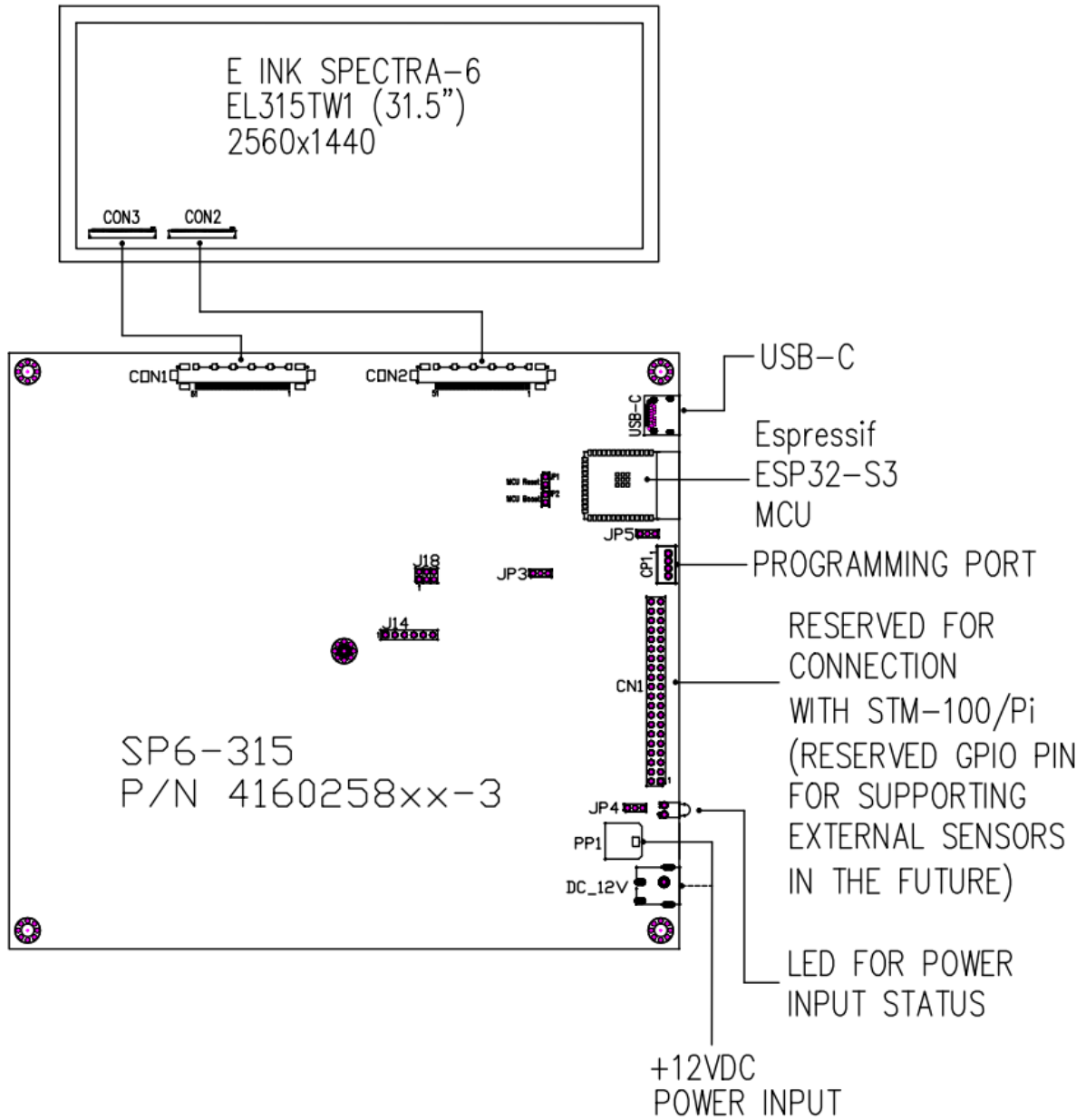
- Ensure that all necessary and appropriate safety measures are taken.
- Obtain suitable regulatory approvals as may be required.
- **Verify the power settings for all components before making connections.**

DISCLAIMER

There is no implied or expressed warranty regarding this material.

SYSTEM DESIGN

A typical E Ink Spectra-6 31.5" display system utilizing the SP6-315 is likely to comprise the following:

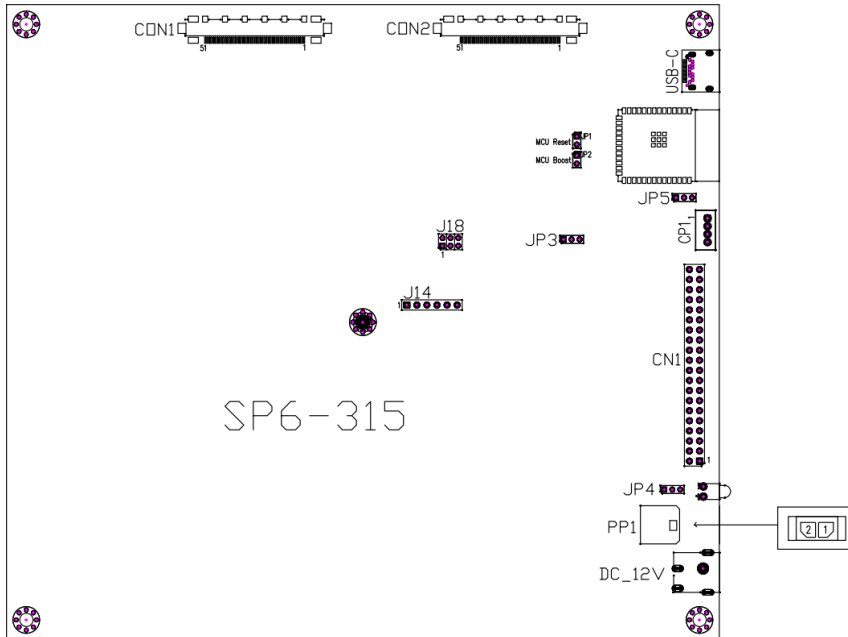


FEATURES

1. Panel Support: E Ink 31.5" Spectra 6 (Model: EL315TW1)
2. Image interface methods:
 - a. Image data input
 - b. ESP-32 onboard MCU with Wi-Fi and Bluetooth
3. Processor - On-board ESP32 MCU, a low-power processor.
 - a. The SP6-315 includes an ESP-32 MCU to enable use as a complete image driver board.
 - b. The low-power standby mode functions are particularly relevant to ultra-low-power operating scenarios.
4. Operating System: A wide range of ESP32 compatible OS's can be used
5. USB-C for data transfer
6. Supports bitmap image file format
7. On-board temperature sensor
8. Media board compatibility: Designed to be used with: Digital View STM-100, Raspberry Pi
9. Compatible with Conversar CMS, our cloud-based signage service for content updates.
10. Power LED reporting power input status.
11. 12V DC input via power connector

CONNECTORS, PINOUTS & JUMPERS

The various connectors are:



Summary: Connectors

Ref	Purpose	Description
CON1	Panel power output	JAE FI-RE51S-HF (Matching type : FI-RE51HL)
CON2	Panel signal output	JAE FI-RE51S-HF (Matching type : FI-RE51HL)
CN1	GPIO pin header (reserved for connection with STM/Pi and external sensors)	51 ways pin header
CP1	Connector for firmware upgrade	JST B4B-PH-K compatible (Matching type : PHR-4)
USB-C	USB-C connector	USB-C connector
PP1	Main Input Power	Molex 43650-0200 compatible (Mating type : Molex 43645-0200 compatible) (Matching power cable : P/N 426013800-3)

All connectors used may use the compatible type.

Summary: Jumpers setting

Ref	Purpose	Note
JA5	Enable / Disable the firmware upgrade	Closed : Enable firmware upgrade Open : Disable firmware upgrade
JB3	Reserved	Default 1-2 closed
JP4	Reserved	Default 2-3 closed
J18	Reserved	Default Open
J14	Reserved	Default Open
JP1	Internal testing use	Default Open
JP2	Internal testing use	Default Open

Power LED Input status (D1) :

Power lutput status	LED color
Power is supplied to SP6-315 board.	Green
No power is supplied to SP6-315 board.	Off

P5 – Connector for firmware upgrade: JST B4B-PH-K compatible (Matching type : PHR-4)

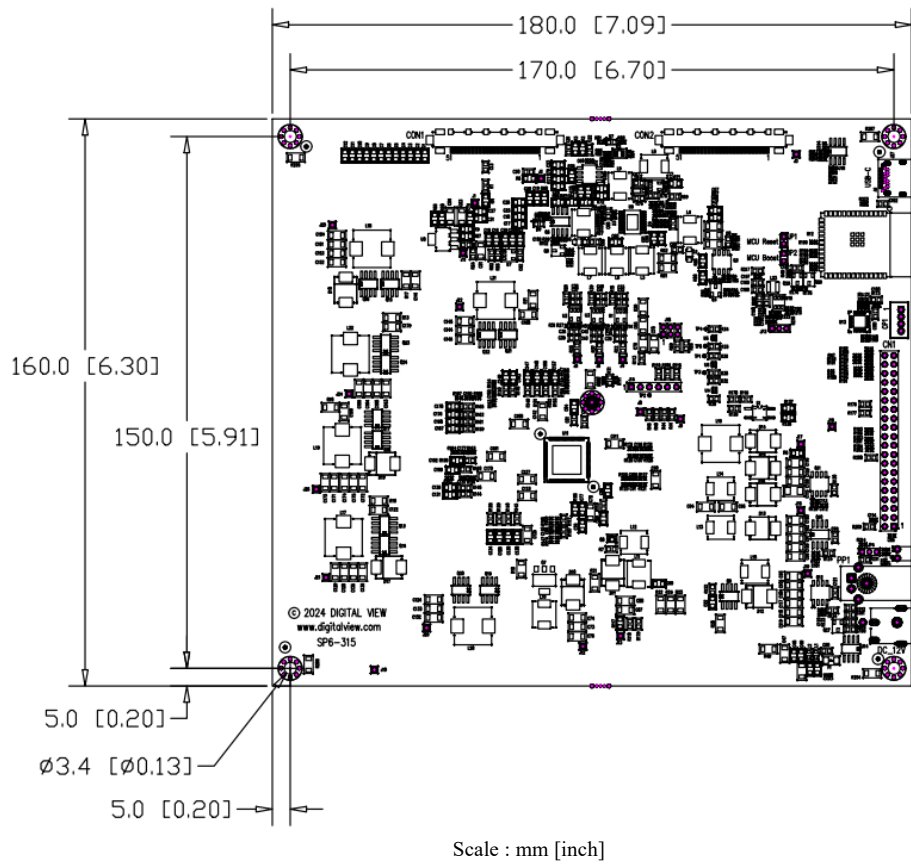
PIN	DESCRIPTION
1	+5V
2	USB Data -
3	USB Data +
4	Ground

PP2 - Power supply Molex 43650-0200 compatible (Mating type : Molex 43645-0200 compatible)

PIN	DESCRIPTION
1	+12VDC 5A max
2	Ground

* All connectors used may use the compatible type.

CONTROLLER DIMENSIONS



Ready-made 3D Pro-E (SLDPRT) drawing files - Save time and effort for your system volumetric analysis design. Includes jpg file previews. Please go to download at <https://www.digitalview.com/controllers/sp6-315-spectra6-board.html>

CAUTION: Ensure adequate insulation is provided for all areas of the PCB with special attention to high voltage parts.

WARRANTY

The products are warranted against defects in workmanship and material for a period of three (3) year from the date of purchase provided no modifications are made to it and it is operated under normal conditions and in compliance with the instruction manual.

The warranty does not apply to:

- Product that has been installed incorrectly, this specifically includes but is not limited to cases where electrical short circuit is caused.
- Product that has been altered or repaired except by the manufacturer (or with the manufacturer's consent).
- Product that has subjected to misuse, accidents, abuse, negligence or unusual stress whether physical or electrical.
- Ordinary wear and tear.

Except for the above express warranties, the manufacturer disclaims all warranties on products furnished hereunder, including all implied warranties of merchantability and fitness for a particular application or purpose. The stated express warranties are in lieu of all obligations or liabilities on the part of the manufacturer for damages, including but not limited to special, indirect consequential damages arising out of or in connection with the use of or performance of the products.

CAUTION

Whilst care has been taken to provide as much detail as possible for use of this product it cannot be relied upon as an exhaustive source of information. This product is for use by suitably qualified persons who understand the nature of the work they are doing and are able to take suitable precautions and design and produce a product that is safe and meets regulatory requirements.

LIMITATION OF LIABILITY

The manufacturer's liability for damages to customer or others resulting from the use of any product supplied hereunder shall in no event exceed the purchase price of said product.

TRADEMARKS

The following are trademarks of Digital View Ltd:

- Digital View
- SP6-315

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For technical support, including contact details, please visit our website.

Revision History

Date	Rev No.	Page	Summary
27 June 2024	1.00	All	First issued