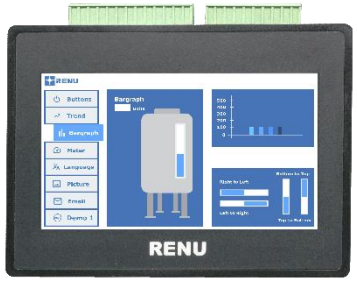
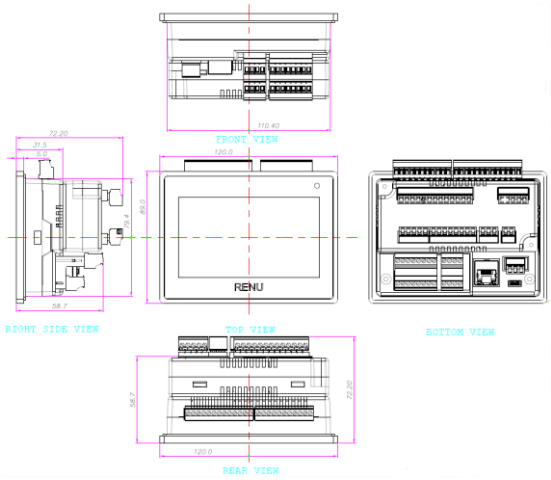
FP2043TN-LE1208P-A0402U-V3
QUICK START GUIDE



Product Code

FP2043TN-LE1208P-A0402U-V3: 480x272, WVGA, 4.3” color TFT with 4-wire analog resistive touch screen with 12 Digital Input 8 Digital PNP type output. 4 Analog Input in that 2 are Linear (16-bit resolution) and 2 are Temperature Input (RTD, Thermocouple etc.) 2 Linear Analog Output (12-bit resolution). With a serial port, one USB Device port. It supports up to 1 expansion.

PRODUCT DIMENSIONS



RENU

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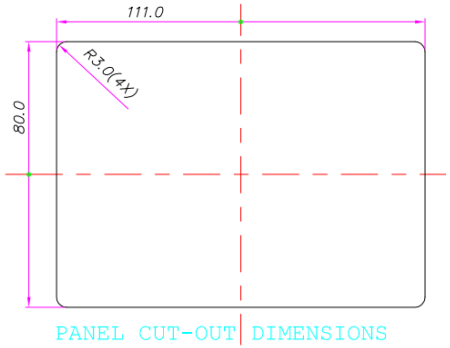
SPECIFICATIONS

Power (Base)	24 VDC (±15%)
Power Consumption	24V @180mA (Wattage: 4.32W).
Display	4.3" WVGA Color TFT
Resolution	480x272
Processor	32 bit RISC processor
Touch Screen	Analog Resistive
LEDs	1
RAM	16MB
FLASH	16MB
User Application	8MB
Ladder Memory	2MB
Alarm Memory	1350 Alarms
Retentive Memory	8000 Words
Keep Memory Registers	1000 Words
Data Log	4MB
Isolation	No
Digital Input	12
Input current	24 VDC, 5mA (±10 %)
Analog Input Total Channels	4 : 2 V/I, 2 Temp input (16 bit resolution)
Voltage Input	0-10 V, 0-5 V (configurable)
Current Input	0-20 mA, 4-20 mA (configurable)
Temperature Input	RTD, PT-100, T/C etc.
Digital Outputs	8 (PNP type)
Analog Output Total Channels	2
Output type	0-20mA, 4-20mA and 0-10 VDC (configurable)
Nominal Load Current	250mA/1 point for PNP
Expansion supported	1 Expansion Card can be supported
Language support	IEC61131-3 (LD, SFC, IL, FBD, ST)
Panel Cutout	80.00(H) x 111.00(W)mm
Bezel Dimensions	89(H) X 120(W) X 31.5(D)mm
Communication	
Serial Ports	1 x RS232/RS485 (only PBT)
USB Device	1 x USB Type C for upload/download and monitoring
Ethernet	1 x 10/100Mbps
SD Card	Micro SD [High Capacity (4GB to 32GB)] Speed Class: C C C C U [While inserting and removing SD card, please make sure to TURNOFF the power to the unit.]
Environment & Approvals	
Operating Temperature	0 to 50 °C
Storage Temperature	-20 to 85 °C
Relative Humidity	10 to 95% non-condensing
Shock	25g, 11ms, 6 shocks per axis, total 18 shocks (X, Y, Z)
Vibration	5~150Hz, 3g peak, (X, Y, Z)
Protection	Front Panel Mounting with IP-66 Rating
Approval	CE, UL(Class 1 DIV 2) and RoHS Complaint
Online edit	Support online edit mode

Note: Units with Hardware Revision A1 and onwards provide SD card support.

PANEL CUTOUT DIMENSIONS

- Panel Cutout Dimensions: 80.00(H) x 111.00(W)mm
- Panel Thickness: Maximum 6mm
- Mounting Clamps: 2
- Tighten the mounting screws evenly to a torque between 0.4N/m to maintain water and dust resistance.

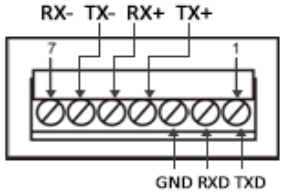


COMMUNICATION

This section provides information regarding communication interfaces supported by this product.

COM1/COM2

FP2043TN-LE1208P-A0402U-V3 has one terminal block port (COM1/COM2) which support RS232 / RS485 signal levels.
Program Upload/Download supported on RS232 Port



USB Device Port

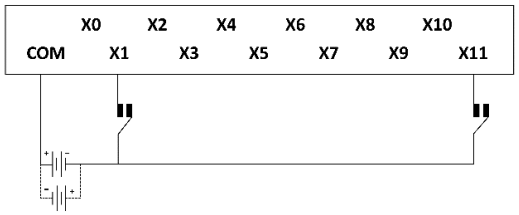
1. USB Device port, compliant with USB2.0 specification, self-powered device.
2. Connector used: USB Type C Female connector.

Ethernet Port

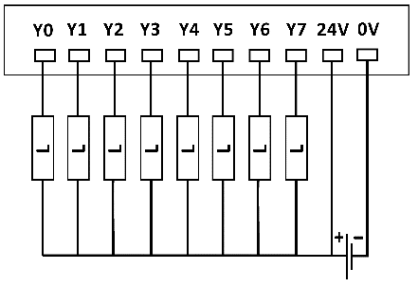
1. Fully compliant with IEEE 802.3 / 802.3U standards.
2. 10/100 Mbps support.
3. Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs.

WIRING DRAWING

Digital Input

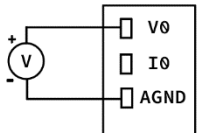


Digital Output

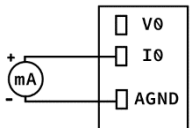


Analog Input

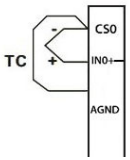
Voltage Input



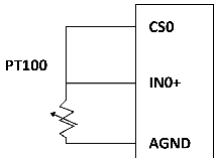
Current Input



Thermocouple

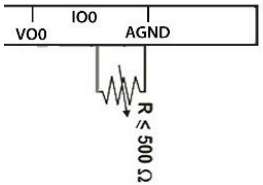


RTD

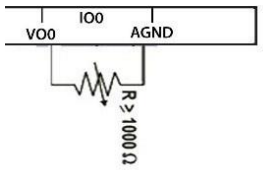


Analog Output

Current Output



Voltage Output



DATA FORMAT

Channel Type Selection Values Table

Use the following values in the Input and output channel type. Select register to configure the corresponding channel to particular type.

Input Channel Type	Value	Input Channel Type	Value
Voltage: 0 to 10V	1	S Type	12
Voltage: 0 to 5V	6	E Type	13
Current: 4 to 20mA	2	J Type	14
Current: 0 to 20mA	3	K Type	15
RTD: ALPHA1	7	N Type	16
B Type	10	T Type	17
R Type	11		

Output Channel Type	Value
Voltage: 0 to 10V	2
Current: 4 to 20mA	5
Current: 0 to 20mA	6

Configuration Registers for Analog Input

CH No.	Configuration Register	Input Register	Input Error Register	Temp / Linear
CH-0	MW0071	XW0001	MW0090	Linear
CH-1	MW0072	XW0003	MW0090	Linear
CH-2	MW0087	XW0005	MW0090	Temp.
CH-3	MW0088	XW0007	MW0090	Temp.

#Linear (V and I) #Temp (RTD, T/C)

Configuration Registers for Analog Output

CH No.	Configuration Register	Current Register	Voltage Register
CH-0	MW0073	YW0002	YW0001
CH-1	MW0089	XW0004	YW0003

Data Output Format for Analog Input

For, Voltage Input (0 to 10V)

Voltage input	Count
0	0
2.5V	16383
5V	32767
7.5V	49150
10V	65535

Voltage Input (0 to 5V)

Voltage input	Count
0	0
1.5V	19660
2.5V	32767
3.75V	49150
5V	65535

For, Current Input (0 to 20mA)

Current input	Count
0	0
5mA	16383
10mA	32767
15mA	49150
20mA	65535

Current Input (4 to 20mA)

Current input	Count
4mA	0
8mA	16383
12mA	32767
16mA	49150
20mA	65535

RTD type and range table

Input Type	Temp. Range	Input Type	Temp. Range
Alpha1	-200 to 850° C	J Type	-200 to 1200° C
B Type	100 to 1800° C	K Type	-200 to 1300° C
R Type	0 to 1700° C	N Type	-270 to 1300° C
S Type	0 to 1700° C	T Type	-200 to 350° C
E Type	0 to 600° C		

Note:

Analog Input Under-Range Count: 65000/Analog Input over-range Count: 65001, RTD PT100 Alpha1 constant= 0.00385

Accuracy for Voltage, Current and RTD: 0.2% of full scale @25° C

Accuracy for T/C =0.5% of full scale @25° C

Data Output Format for Analog Output

I(4 to 20mA)

Current input	Count
4mA	0
8mA	1024
12mA	2057
16mA	3072
20mA	4095

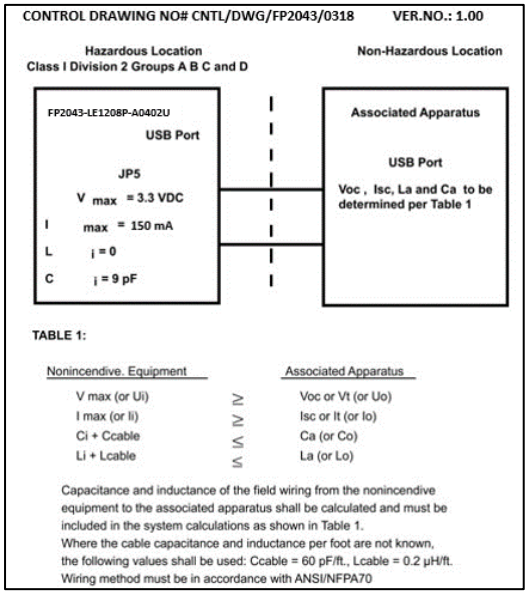
I(0 to 20mA)

Current input	Count
0	0
5mA	1024
10mA	2048
15mA	3072
20mA	4095

V(0 to 10V)

Voltage Output	Count
0	0
2.5V	1024
5V	2048
7.5V	3072
10V	4095

UL APPROVAL



REVISION HISTORY

Rev.	Description	Date
1.0	Initial Release	25/09/2023
1.1	Product image and drawings updated	25/10/2023
1.2	Analog Inputs diagram updated	06/11/2023

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