Datasheet Touchberry 10.1" & Tinkertouch 10.1 " Family

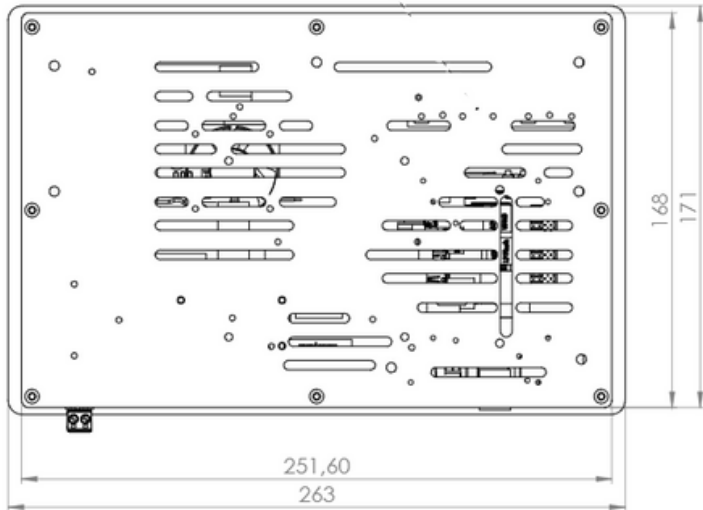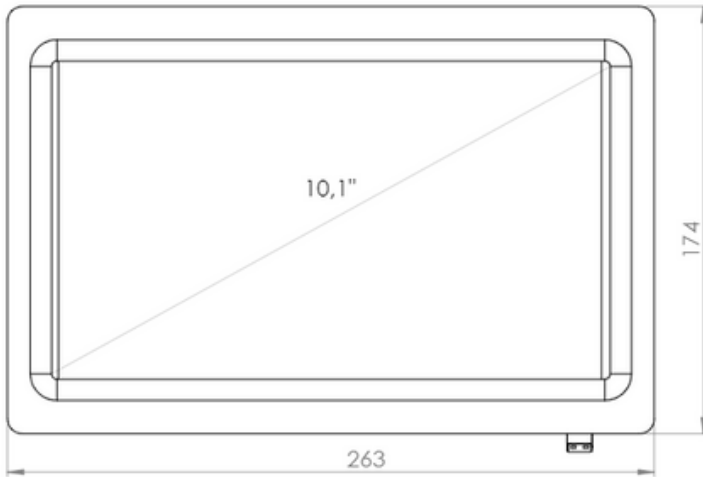Industrial Shields®

Technical Features   TOUCHBERRY 10.1 " & TINKERTOUCH 10.1 "   General Features
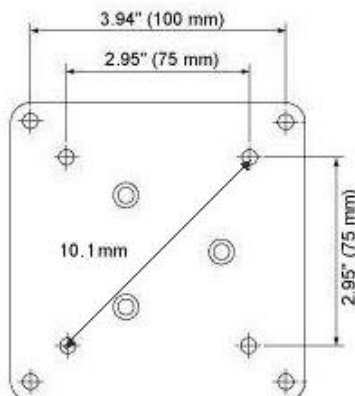
MODEL TYPE	Touchberry 10.1 " / Tinkertouch 10.1"
Input Voltage	12 to 24Vdc (Fuse protection (2.5A) Polarity protection)
Input rated voltage	24Vdc
Rated Power	30 W
I max.	1.5A
Size (cm)	263x174x47
SRAM	2-4-8 GB/ 8GB
Communications	I2C, Ethernet (x2), USB (x4), RS485 (x2), SPI , WiFi, Bluetooth, Serial TTL, CAN, mircoSD, RTC

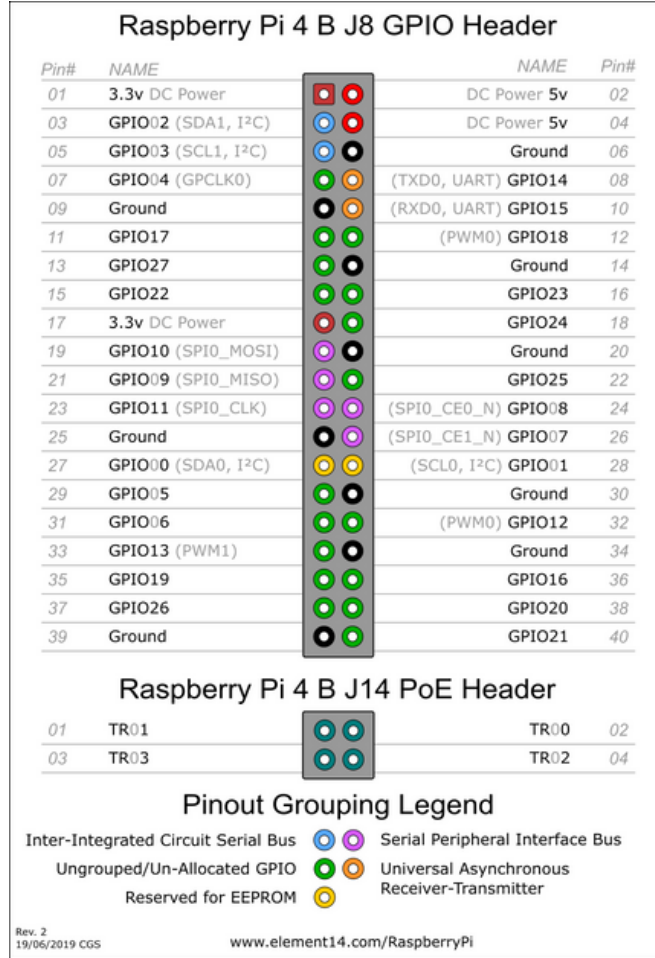| Power supply voltage	DC power supply	12 to 24Vdc
Operating voltage range	DC power supply	11.4 to 25.4Vdc
Power consumption	DC power supply	30 W MAX.
External power supply	Power supply voltage	24Vdc
	Power supply voltage	700 mA
Insulation resistance		20mΩ min.at 500Vdc between the AC terminals and the protective earth terminal.
Dielectric strength		2.300 VAC at 50/60 Hz for one minute with a leakage current of 10mA max. Between all the external AC terminals and the protective ground terminal.
Shock resistance		80m/s2 in the X, Y and Z direction 2 times each.
Ambient temperature (operating)		0° to 50°C with Raspberry OS Lite / 0° to 40°C with Raspberry OS Desktop
Ambient humidity (operating)		10% to 90% (no condensation)
Ambient environment (operating)		With no corrosive gas
Ambient temperature (storage)		-20° to 60°C
Power supply holding time		2ms min.
Weight		2250g

Mechanical dimensions:

VESA 75 Standard design

Touchberry Pi 4 B I/Os Pinout

Raspberry Pi 4 B J8 GPIO Header

Pin#	NAME		NAME	Pin#
01	3.3v DC Power		DC Power 5v	02
03	GPIO02 (SDA1, I²C)		DC Power 5v	04
05	GPIO03 (SCL1, I²C)		Ground	06
07	GPIO04 (GPCLK0)		(TXD0, UART) GPIO14	08
09	Ground		(RXD0, UART) GPIO15	10
11	GPIO17		(PWM0) GPIO18	12
13	GPIO27		Ground	14
15	GPIO22		GPIO23	16
17	3.3v DC Power		GPIO24	18
19	GPIO10 (SPI0_MOSI)		Ground	20
21	GPIO09 (SPI0_MISO)		GPIO25	22
23	GPIO11 (SPI0_CLK)		(SPI0_CE0_N) GPIO08	24
25	Ground		(SPI0_CE1_N) GPIO07	26
27	GPIO00 (SDA0, I²C)		(SCL0, I²C) GPIO01	28
29	GPIO05		Ground	30
31	GPIO06		(PWM0) GPIO12	32
33	GPIO13 (PWM1)		Ground	34
35	GPIO19		GPIO16	36
37	GPIO26		GPIO20	38
39	Ground		GPIO21	40

Raspberry Pi 4 B J14 PoE Header

01	TR01		TR00	02
03	TR03		TR02	04

Pinout Grouping Legend

Inter-Integrated Circuit Serial Bus ◯◯ ◯ Serial Peripheral Interface Bus
Ungrouped/Un-Allocated GPIO ◯ ◯ Universal Asynchronous
Reserved for EEPROM ◯ Receiver-Transmitter

Rev. 2
19/06/2019 CGS   www.element14.com/RaspberryPi

DC-37 female connector Pinout and Raspberry Pi 4B Pinout:

DC-37	Raspberry Pi GPIO	DC-37	Raspberry Pi GPIO	DC-37	Raspberry Pi GPIO	DC-37	Raspberry Pi GPIO	DC-37	Raspberry Pi GPIO
1	01	09	17	17	35	25	12	33	28
2	03	10	19	18	37	26	14	34	30
3	05	11	21	19	40	27	16	35	33
4	07	12	23	20	02	28	18	36	36
5	09	13	25	21	04	29	20	37	38
6	11	14	27	22	06	30	22	38	-
7	13	15	29	23	08	31	24	39	-
8	15	16	32	24	10	32	26	40	-

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Tinker Board Touch Pi I/Os Pinout:

GPIO.Setmode (GPIO.ASUS)	GPIO.Setmode (GPIO.BOARD)	Pinout	Physical Pin Number		Pinout	GPIO.Setmode (GPIO.BOARD)	GPIO.Setmode (GPIO.ASUS)
	1	VCC3.3V_IO	1	2	VCC5V_SYS	2	
252	3	GP8A4_I2C1_SDA	3	4	VCC5V_SYS	4	
253	5	GP8A5_I2C1_SCL	5	6	GND	6	
17	7	GP0C1_CLKOUT	7	8	GP5B1_UART1TX	8	161
	9	GND	9	10	GP5B0_UART1RX	10	160
164	11	GP5B4_SPI0CLK_UART4CTSN	11	12	GP6A0_PCM/I2S_CLK	12	184
166	13	GP5B6_SPI0_TXD_UART4TX	13	14	GND	14	
167	15	GP5B7_SPI0_RXD_UART4RX	15	16	GP5B2_UART1CTSN	16	162
	17	VCC33_IO	17	18	GP5B3_UART1RTSN	18	163
257	19	GP8B1_SPI2TXD	19	20	GND	20	
256	21	GP8B0_SPI2RXD	21	22	GP5C3	22	171
254	23	GP8A6_SPI2CLK	23	24	GP8A7_SPI2CSN0	24	255
	25	GND	25	26	GP8A3_SPI2CSN1	26	251
233	27	GP7C1_I2C4_SDA	27	28	GP7C2_I2C4_SCL	28	234
165	29	GP5B5_SPI0CSN0_UART4RTSN	29	30	GND	30	
168	31	GP5C0_SPI0CSN1	31	32	GP7C7_UART2TX_PWM3	32	239
238	33	GP7C6_UART2RX_PWM2	33	34	GND	34	
185	35	GP6A1_PCM/I2S_FS	35	36	GP7A7_UART3RX	36	223
224	37	GP7B0_UART3TX	37	38	GP6A3_PCM/I2S_SDI	38	187
	39	GND	39	40	GP6A4_PCM/I2S_SDO	40	188

DC-37 female connector Pinout and Tinker Board Pinout

Tinker Board Pinout	External Pinout	DC-37	External Pinout	DC-37	External Pinout	DC-37	External Pinout	DC-37	External Pinout
1	-	09	GND	17	-	25	GND	33	RS232RX
2	5V+	10	RXD	18	GPIO24	26	CS1	34	GND
3	SDA	11	RE	19	MOSI	27	-	35	GPIO19
4	5V+	12	GPIO18	20	GND	28	-	36	TTL RX
5	SCL	13	DE	21	MISO	29	GPIO05	37	TTL TX
6	GND	14	GND	22	GPIO25	30	GND	38	GPIO20
7	GPIO4	15	GPIO22	23	SCLK	31	GPIO06	39	GND
8	TXD	16	GPIO23	24	CS0	32	RS232TX	40	GPIO21

Touch Screen Specifications

Item	Touch Screen
Technology	Resistive Multitouch LVDS, 315 nits, 170° viewing angle
Image Resolution	1280 x 720
Format	16:9
Size	10.1"

Performance Specifications:

Panel PC Board	Raspberry Pi 4 /Tinker board
RAM	2-4-8GB / 2GB
Operating Systems	Raspbian / Andriod or Other Debian based Distros
CPU	Quad-Core ARM Cortex - A72 / Rockchip Quad-Core RK3288
GPU	Broadcom VideoCore VI / ARM-based Mali™-T764
Website	https://www.industrialshields.com/

Raspberry PLC Access

How to access to the Raspberry PLC:

-Linux users: using ssh specifying the IP address: 10.10.10.20/24.

-Windows users: we recommend to use PuTTY ssh client. The IP address have to be specified: 10.10.10.20/24.
You can download the latest release of PuTTY here:
https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

UPS Shield
This PLC has integrated an UPS Shield, a device which provides an anti-voltage drop protection system designed to avoid data corruption when the current is suddenly cut off.

RTC
This PLC has integrated the DS3231 Real Time Clock model which is powered by a button battery (CR1216 or CR1220).

Fan
This PLC has the option to include a fan to refrigerate the CPU and the other components if the working envirionement requires it.

Warnings

Unused pins should not be connected. Ignoring the directive may damage the controller.

Before using this product, it is the responsibility of the user to read the product's User Guide and all accompanying documentation.

Industrial Shields PLCs must be powered between 12Vdc and 24Vdc. If a higher voltage is supplied to the equipment can suffer irreversible damage.

Maintenance must be performed by qualified personnel familiarized with the construction, operation, and hazards involved with the control.

Maintenance should be performed with the control out of operation and disconnected from all sources of power.

The Industrial Shields Family PLCs are Open Type Controllers. It is required that you install the Raspberry PLC in a housing, cabinet, or electric control room. Entry to the housing, cabinet, or electric control room should be limited to authorized personnel.

Inside the housing, cabinet or electric control room, the Industrial Shields PLC must be at a minimum distance from the rest of the components of a minimum of 25 cm, it can be severely damaged.

Failure to follow these installation requirements could result in severe personal injury and/or property damage. Always follow these requirements when installing Raspberry family PLCs.

In case of installation or maintenance of the PLC please follow the instructions marked in the Installation and Maintenance section on the User Guide.

Do not disconnect equipment when a flammable or combustible atmosphere is present.

Disconnection of equipment when a flammable or combustible atmosphere is present may cause a fire or explosion which could result in death, serious injury and/or property damage.

Inside the encapsulated, there are supercapacitors if 25F which can be dangerous. Be careful with them.

Symbology

⎓	Indicates that the equipment is suitable for direct current only; to identify relevant terminals
∼	Indicates that the equipment is suitable for alternating current only; to identify relevant terminals
⊓	To identify the control by which a pulse is started.
⏚	To identify an earth (ground) terminal in cases where neither the symbol 5018 nor 5019 is explicitly required.
⊗	To identify the switch by means of which the signal lamp(s) is (are) switched on or off.
CE	CE marking indicates that a product complies with applicable European Union regulations
⚠	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
⚡	To indicate hazards arising from dangerous voltages

Technical Support

You can contact with us using the best channel for you:

@ support@industrialshields.com

🌐 www.industrialshields.com

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