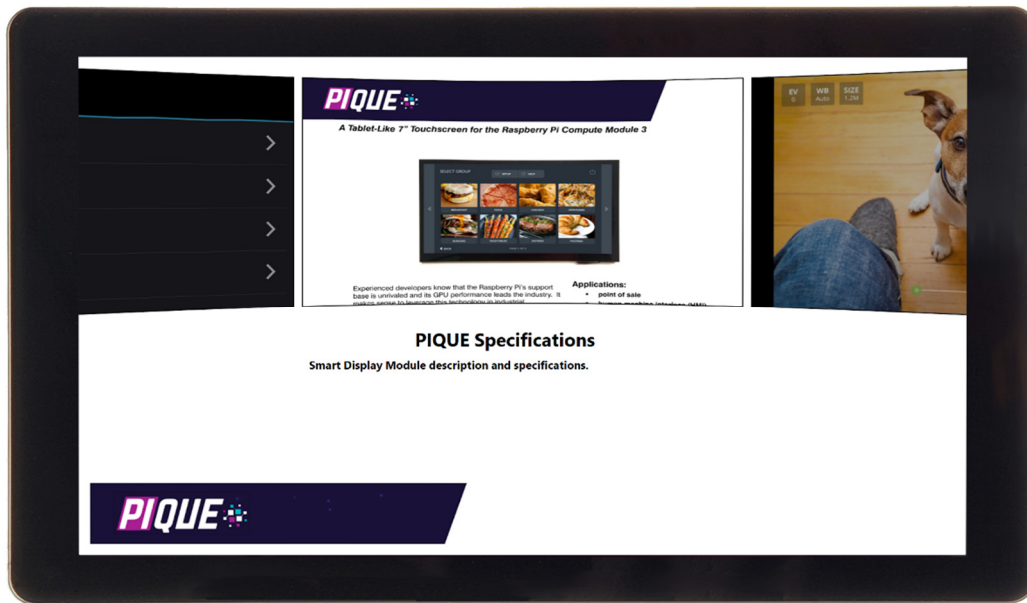


10.1" Smart Display Module for Raspberry Pi Compute Module 3



Make it beautiful. Your product deserves a stunning look. Your customers deserve the best user experience. They deserve PIQUE™.

It starts with a beautiful touchscreen. Bright whites and deep blacks. A full color gamut at every angle. Responsive to light and heavy touches, yet hard and rugged.

A high-performance CPU is important, but PIQUE adds a best-in-category GPU for snappy, responsive scrolling, navigation, and loading.

Software and product development should be a thing of beauty, too. That's why PIQUE leverages the Raspberry Pi so you can leverage a huge ecosystem of drivers, open-source software, and technical support.

Integration with your existing product is smooth and easy: a wide variety of I/O options with industrial connectors, support for industry-standard protocols like RS-232/485, I²C, SPI, USB, and Ethernet, a wide input voltage range, a slim, compact profile, and a protective metal shell with mounting screws for protection during assembly.

The PIQUE starter kit includes everything you need to get up and running immediately, including a preconfigured system image and the PIQUE Preinstalled Environment virtual machine. Royalty-free development using Electron is also supported.

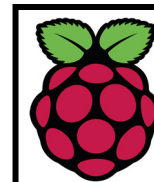
PIQUE is available now and additional options are coming soon. Contact The Circuit Foundry to order.

Applications:

- point of sale
- human-machine interface (HMI)
- test and measurement equipment
- vending
- building and security controls
- digital signage

Benefits:

- convert prototypes to production instantly
- extensive driver/OS support
- industrial ratings and operating range
- flexible power supply options
- availability until at least 2026



For use with
Raspberry Pi™
Compute Module
3/3+ and CM3 Lite

10.1" Smart Display Module for Raspberry Pi Compute Module 3

TFT LCD Display

| | |
|---------------------|--|
| display resolution | 1280×800 pixels |
| brightness | 330 cd/m ² |
| contrast | 600:1 minimum, 800:1 typical |
| viewing angle | 85 degrees typical (IPS type) |
| viewable area | 10.1" diagonal. 216.96mm×135.6mm active area |
| color depth | 16.7 million colors (24-bit color) |
| brightness | adjustable via software from <1% to 100% |
| backlight endurance | 30,000 hours (to 50% brightness) |

Touchscreen

| | |
|--------------|--|
| technology | projected capacitance |
| touch inputs | 10 simultaneous touches |
| surface | optically-bonded , 6H hardness |
| interface | I ² C with kernel driver (included) |

Real-Time Clock

| | |
|----------------------|---------------------------------|
| timekeeping accuracy | ±5ppm (temperature compensated) |
|----------------------|---------------------------------|

Ethernet

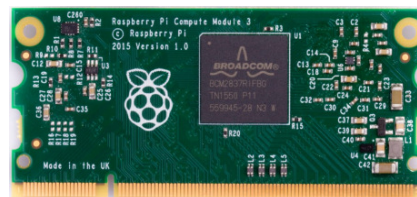
| | |
|----------|---|
| protocol | 10/100BaseT, full duplex ±8kV/15kV contact/air discharge ESD protection optional 802.3at (PoE+) power over Ethernet |
|----------|---|

Digital Interfaces

| | |
|-----------------------|---|
| USB | 4 ESD-protected USB 2.0 host ports 2 USB-A receptacles, 2 5-pin 0.1" headers |
| I/O signals | 20 available Pi GPIO pins RPi pins: GPIO4-5, GPIO12-13, GPIO20-21 CM3 pins: GPIO30-33, GPIO36-39, GPIO41-45 |
| available peripherals | UART0 and UART1 w/handshaking, SPI0, I ² C0 and I ² C1, PWM0 and PWM1 (uses GPIOx I/O signals) |
| backlight brightness | driven by CM3 PWM0 or external circuit |

Compute Module Support

| | |
|-------------------|--|
| supported modules | CM3, CM3L with microSD, CM3+ (8 GB, 16 GB, 32 GB, Lite) |
| boot devices | CM3/3+ EMMC*, microSD, USB memory stick * requires CM3 I/O board for EMMC programming |



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Electrical Specifications

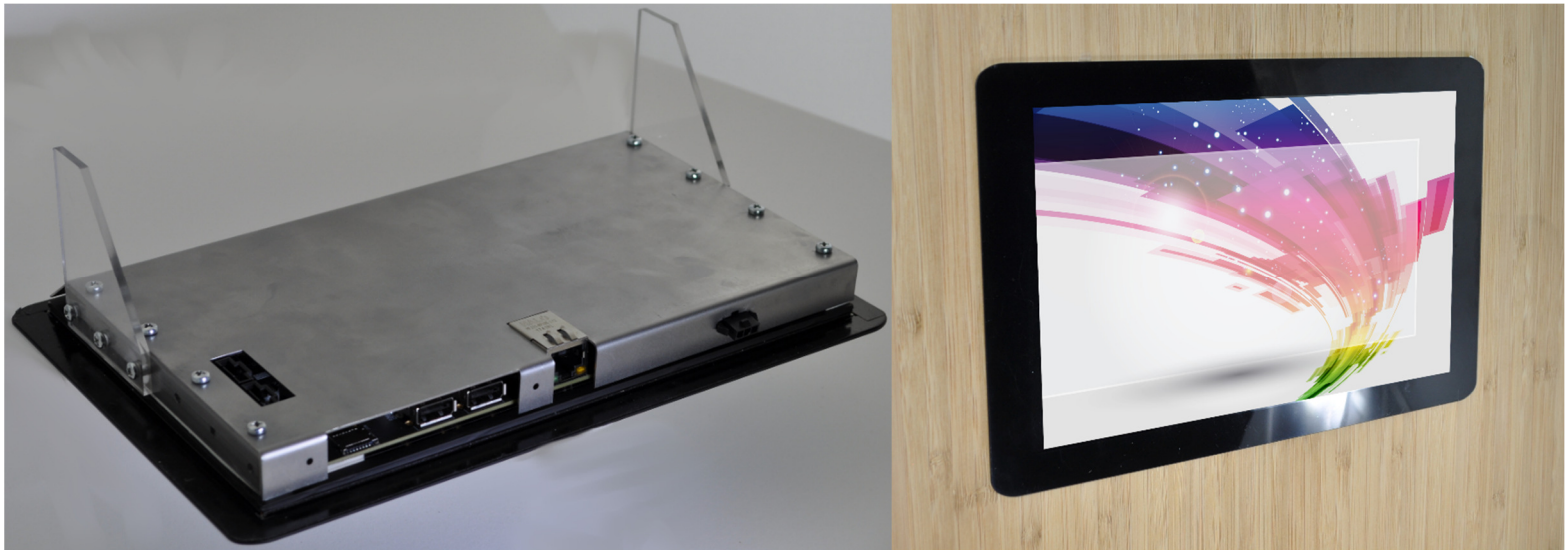
| | | |
|-----------------------|--------------------|---------------------------|
| input voltage | 9-36 VDC | connector: TE 2-1445057-3 |
| current consumption | under 0.5A @ 12VDC | |
| I/O voltage | 3.3 VDC | |
| operating temperature | -20°C to +70°C | |

Physical Characteristics

| | |
|------------|--------------------------|
| weight | 825g |
| dimensions | 229.46 × 149.12 × 25.4mm |
| mounting | up to 12 M3 screw holes |

Included Software

| | |
|--------------------|--|
| Linux System Image | Raspberry Pi OS Buster with additional shared objects, display and touchscreen drivers |
| Qt Open Source | precompiled Qt Open Source 5.15 and cross-compilation suite |
| Electron | preconfigured in PIQUE System Image |
| LVGL | included in Preinstalled Environment |
| Other | startup screen installer for customized splash screens on power up |



PIQUE Touchscreen Module shown with starter kit stands and flush-mounted on a wall.



10.1" Smart Display Module for Raspberry Pi Compute Module 3



PIQUE Starter Kit

Everything you need to be productive, immediately:

- PIQUE 10.1" display module
- Raspberry Pi Compute Module 3+
- MicroSD card
- WiFi adapter
- Desktop stands
- 120VAC Power supply

Get up and running in minutes!

PIQUE Virtual Machine

Get coding immediately with our Preinstalled Environment Virtual Machine. Includes Qt cross-compile tools, Electron, and LVGL.

Development Support:

- customized Raspberry Pi OS Buster
- precompiled Qt cross-compile system
- preconfigured Electron development environment
- LVGL graphics library
- startup/boot splash screen system
- available CAD models



Additional Support:

- custom software development
- kernel/driver customization
- PCB additions, depopulation
- custom LCD/touch selection
- custom glass overlay

