

7.0" Smart Display Module for Raspberry Pi Compute Module 3



Experienced developers know that the Raspberry Pi's support base is unrivaled and its GPU performance leads the industry. It makes sense to leverage this technology in industrial applications, and the PIQUE™ 7" Tablet HMI is the perfect tool to accomplish that.

Everyone knows the Raspberry Pi is a great tool for creating prototypes. PIQUE quickly converts Raspberry Pi prototypes into real products with a rich, snappy, colorful user experience. Thin and compact, PIQUE is easy to integrate with existing or new enclosure cabinets. A wide variety of power input options further eases system integration.

The PIQUE starter kit includes everything you need to get up and running immediately, including a Compute Module 3+, customized Raspberry Pi OS™ Linux build, prebuilt Qt open-source object library, and PIQUE Preinstalled Environment virtual machine.

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

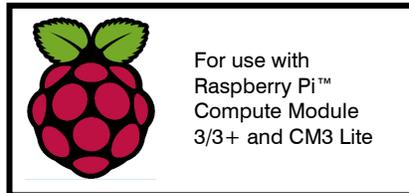
Applications:

- point of sale
- human-machine interface (HMI)
- test and measurement equipment
- security controls
- media players

Benefits:

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

Built with 



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TFT LCD Display

display resolution	800×480 pixels
brightness	425 cd/m ²
contrast	400:1
viewing angle	70 degrees
viewable area	7" diagonal. 152.4mm×91.44mm active area
color depth	262144 colors (RGB666 format)
brightness	adjustable via software from <1% to 100%
backlight endurance	40,000 hours

Touchscreen

technology	projected capacitance
touch inputs	5 simultaneous touches
surface	optically-bonded , 6H hardness
interface	I ² C with kernel driver (included)

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	regulated 5 VDC +/- 5% 9-36 VDC	connector: TE 2-1445057-2 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	180g	
dimensions	165.0 × 104.44 × 15.0mm (13.5mm w/o USB connector)	
mounting	high bond tape or custom metal frame	

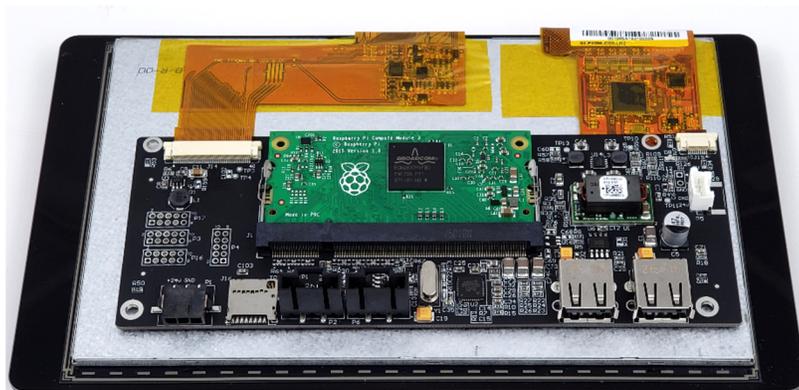
Included Software

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	

Ordering Information

Contact The Circuit Foundry for details:

info@thecircuitfoundry.com
phone 630-454-4407



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