# 10.1" G3BNG Resistive Touchscreen Display Module
## Part Number: 51-0601-011*

This module makes integration easy. The G3BNG multi-function processor controller board powers each unit with various input/output (I/O) ports, LCD, backlight driver, and touch sensor, which are completely integrated and ready to go. Different touchscreen and cover glass options are available. Get long-term availability with an industry-standard LCD form factor and 10+ year processor life.

Your applications run on a custom embedded Linux distribution built from the LTS Yocto toolset. Systems come with advanced field software upgrade capabilities, optimized boot speeds, customizable splash screens, and cloud infrastructure compatibility.

A best-in-class development environment allows you to design iPhone-like interfaces with video, audio, meters, slider wheels, and other modern controls and indicators. Develop on any platform – Windows, Linux, Mac using Virtual Box VM with complete pre-installed development tools. Develop in C, C++, Python or JavaScript/Node.js. Use common GUI toolkits like Qt/QML or GTK+.

Download mechanical drawings, panel specifications, manuals, and more at reachtech.com/51-0601-011.

Modules offer many interface options: CAN, Ethernet, USB, RS-232, RS-422/485, microSD, WiFi, Bluetooth and more. They are designed with low-profile headers and adapter cables for maximum flexibility.

## Benefits

- Integrated, tested, single part to buy
- Long-term availability
- Industrial grade options
- Touchscreen and cover glass options
- Customized embedded operating system
- Range of sizes and resolutions
- Advanced features and user experience
- Choice of tools for interface design
- Full engineering and production support
- Additional engineering services available

## Get Started with a Development Kit

Development kits include everything to start and implement the functionality you need: hardware, cables, firmware, development tools, documentation, and live technical support. Order part number 82-0601-011* at reachtech.com/devkit.

Contact sales@reachtech.com or call 503-675-6464 for pricing and availability.

\* Production part numbers start with 81-0601-011 and vary based on the software programmed on the SD card.

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# 10.1" G3BNG Resistive Module  PRODUCT SPECIFICATIONS

## COMPUTING

| | |
|---|---|
| **PROCESSOR** | NXP i.MX 6DualLite, 1.0GHz Dual-Core Arm Cortex-A9 processors including hardware video decoder and 3D graphics engine. Processor clock 792MHz. |
| **STORAGE** | 8GB eMMC<br>MicroSD flash card with push-push connector. |
| **RAM** | 2GB DDR3 DRAM |

## DISPLAY/TOUCHSCREEN

| | |
|---|---|
| **SIZE/TYPE** | 10.1" Diagonal TFT Color LCD<br>Contact us for additional display sizes. |
| **RESOLUTION** | 1280 x 800 WXGA, 18-bit Color |
| **ORIENTATION** | Landscape |
| **LUMINANCE** | Typical 425 (cd/m²) |
| **VIEWING ANGLES** | 85/85 left/right, 85/85 up/down |
| **BACKLIGHT** | LED |
| **MANUFACTURER** | Innolux |
| **TOUCHSCREEN** | Standard Linux touch driver with 4-wire analog rugged resistive touch, 20M+ touches.<br>PCAP and cover glass options available. |

## DIMENSIONS

| | |
|---|---|
| **SIZE** | 9.583" W x 6.85" H x 0.794" D |
| **WEIGHT** | 800 grams |
| **MOUNTING** | Mounting brackets are available. |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| **OPERATING TEMPERATURE** | Maximum: 0 to 70° C<br>The LCD primarily limits this specification. |
| **STORAGE TEMPERATURE** | -30 to 80° C |
| **HUMIDITY** | Max 90%RH at 60° C;<br>No Condensation |
| **RoHS 2 COMPLIANT** | Yes |

## INTERFACES AND FEATURES

| | |
|---|---|
| **CAN** | CAN bus with transceiver |
| **USB** | USB 2.0 (high speed) host port<br>USB 2.0 (high speed) On-The-Go (OTG) port |
| **NETWORKING** | 10/100/1000 Ethernet PHY<br>Note: Maximum measured performance is 430 Mbps in an optimized environment.<br>WiFi/Bluetooth via USB dongle |
| **SERIAL** | RS-232<br>RS-422/RS-485<br>3.3V CMOS serial port |
| **ADDITIONAL I/O** | I²C port<br>8-bit GPIO port 5V tolerant<br>For SPI, contact us.<br>Contact us for additional I/O. |
| **AUDIO** | Codec with 1-watt audio amplifier |
| **INPUT POWER** | 11-13V 1.2mA Max |
| **POWER CONSUMPTION** | Increases when external I/O is used. |
| **REAL-TIME CLOCK** | RTC and 5-year battery backup. |

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## SOFTWARE FRAMEWORKS & TOOLS

**TARGET**

Embedded Linux with LTS kernel 5.4 and Qt 5.15.2.

Choice of UI toolkit: Qt LTS or GTK+.

Full support for secure web and IIoT interfaces: FireHOL, NGINX, lighttpd, Node.js and Mosquitto.

Customizable boot splash screen.

Robust system updates with Mender client.

**HOST**

SDK including cross compiler and on target debugger.

Development options:

| UI TOOLKIT | RAD TOOL |
|---|---|
| GTK+/PyGTK | Glade3 |
| Qt5/PyQt5 | Qt Creator |

## What You Get When You Work with Us

### Integration Made Easy

Each module has an LCD, controller board, backlight driver, and touchscreen ready to go. It acts as a smart slave to your host processor.

### Quick Start

Get up and running quickly with a development kit which includes hardware, software, documentation, and support. 3,500+ kits sold to date. 100% satisfaction guarantee.

### Full Support

Get to market faster by leveraging our expertise in embedded touchscreen development. We understand our products are just one component of your final system and are here to help.

### Long-Term Availability

Modules offer long-term availability with multi-sourced, industry-standard LCD form factor and a 10+ year processor life.

### Move Smoothly to Production

Modules are designed especially for medical and advanced industrial equipment. More than 200K modules are in the field with 900+ customers.

### Custom Modules

If our standard modules are not a fit, we can provide customized modules if you have sufficient production volumes.

Reach Technology has been designing and building specialized products for 30+ years. Put our experience and expertise on your team. Contact us at 503-675-6464 or sales@reachtech.com with any questions.

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