itron | *Noritake*

LCD Touch Screen Modules
GT-CP-series -Command Controlled-

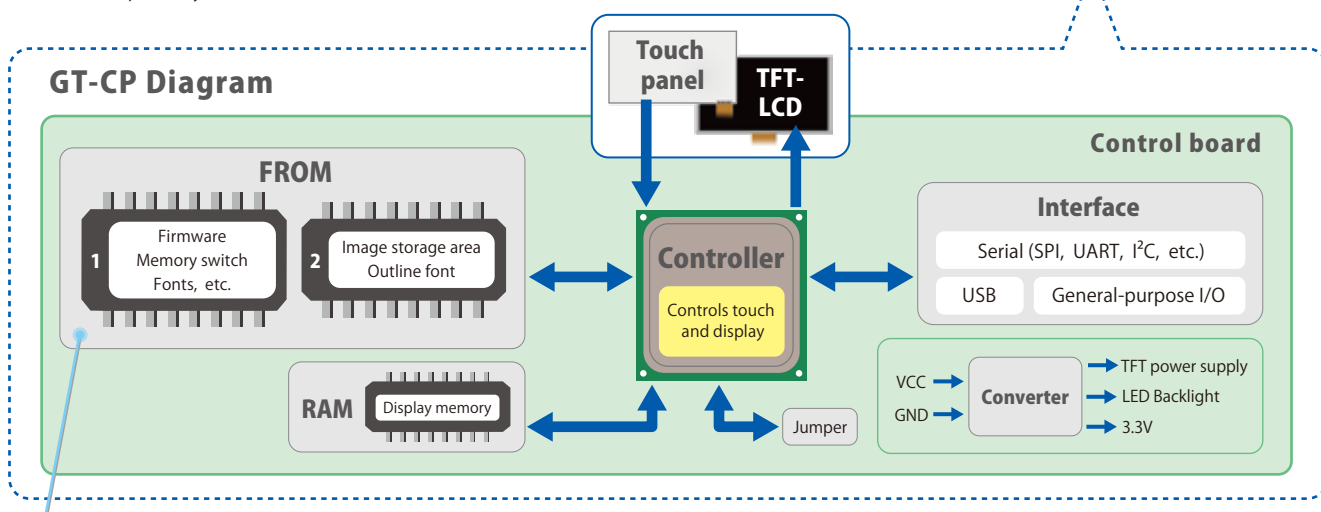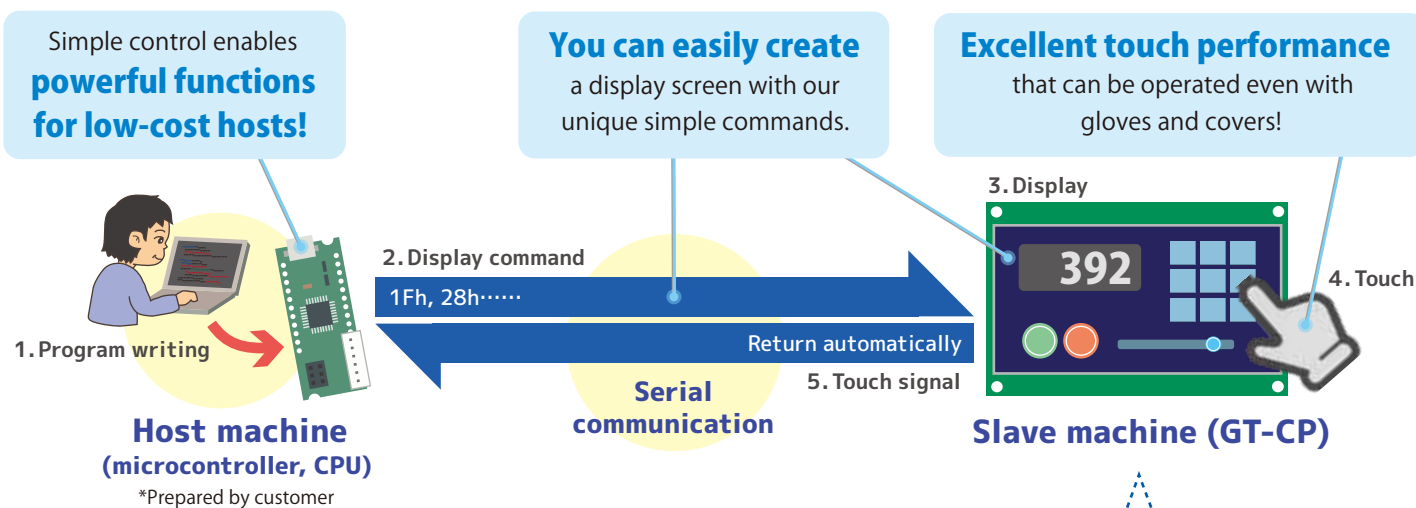**Easy to develop with a simple control!**
It is a unique touch display product, which is bright and easy to see
and can be controleed by an inexpensive host microcontroller.
It can be used by incorporating it into your device/equipment.
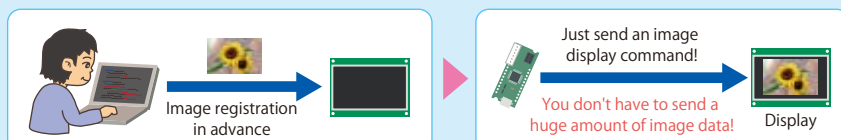

● Features & Configuration

The GT-CP is a command-controlled LCD Touch Screen Modules. It is typically used as a slave device (operated under the control of the host).

Simple set of cammands similar to our VFD modules. Just send the character code from the host.   You can easily control the touch and the display.

Simple control enables powerful functions for low-cost hosts!

You can easily create a display screen with our unique simple commands.

Excellent touch performance that can be operated even with gloves and covers!

3. Display

2. Display command
1Fh, 28h······

1. Program writing

Return automatically
5. Touch signal

4. Touch

Serial communication

Host machine (microcontroller, CPU)
*Prepared by customer

Slave machine (GT-CP)

GT-CP Diagram

Touch panel — **TFT-LCD**

FROM

1 — Firmware Memory switch Fonts, etc.

2 — Image storage area Outline font

Control board

Controller — Controls touch and display

Interface
Serial (SPI, UART, I²C, etc.)
USB | General-purpose I/O

RAM — Display memory

Jumper

VCC → Converter → TFT power supply
GND → → LED Backlight
→ 3.3V

Reduce host burden by registering images!

By using a PC and development support software (provided by us) and registering images in FROM beforehand, images can be displayed with minimal load on the host.

Image registration in advance

Just send an image display command!
You don't have to send a huge amount of image data!
Display

● Three control methods   Select the most suitable control method for your application.

1. Direct control

A common control method that sends control commands directly from a host or PC.

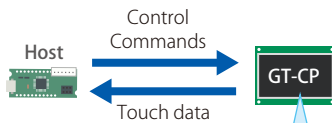Host → Control Commands → GT-CP
GT-CP → Touch data → Host

Image and font data can be registered using the memory tool function of the development support software.
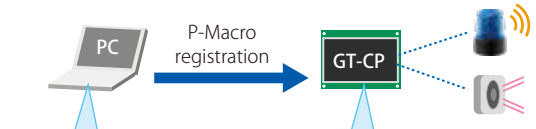
2. Macro control

A control method in which a series of control command processing is registered as a macro and executed repeatedly.

Host → Macro registration → GT-CP
→ Instruction data (execution/stop)

A sequence of commands can be registered for processing in a continuous loop, until data is received from the host.

3. P (program)-macro control

The GT-CP can operate autonomously, following user-programmed control commands, calculations, conditional branching, and loops, registered as a P-macro.

PC → P-Macro registration → GT-CP

Program development using "support software".

GT-CP can operate autonomously by itself, including automatic control of peripheral devices with general-purpose I/O ports!

● Development support software [GTOMP]

GTOMP is a software, which will assist you during your GT-CP development. You can download it
free-of-charge from the Technical Support page on our website (no installation required).
[Main functions : Screen design, data registration and storage in FROM (images and outline fonts), creation and edit of P macro programs]

● Lineup / specifications

Display Size (mm)	4.3 inch		5 inch	7 inch	
	95.04 x 53.86		108.0 x 64.8	154.08 x 85.92	
Model	GTWQ043C3A00PA	GTWQ043C3B00PWA	GTWV050C3A00PA	GTWV070C3A00PA	GTWV070C3A01PA
	Standard model *2	Wide operating *1 temperature model	Standard model	Standard model	RS232 I / F model
Display Resolution (pixels)	480 x 272		800 x 480		
Pixel pitch (mm)	0.198 x 0.198		0.135 x 0.135	0.1926 x 0.179	
PCB Size (mm)	108.0 x 80.0		120.7 x 88.6	165.0 x 118.5	
Brightness [Typ.] 25℃	850 cd/m²		810 cd/m²	850 cd/m²	
Operating Power [Typ.]	5V / 440mA	5V / 410mA	5V / 610mA	5V / 720mA	
Number of Colors	16.7M colors		65k colors		
Operating Temp. (℃)	-20 to +70	-30 to +85	-20 to +70		
Interfaces	UART , I²C , SPI (CMOS 3.3V)				RS232
	USB (High-speed / Full-speed)				

Common subject matter

● **I/O Ports**
  26 bits General-purpose
  I/O port

● **Character Fonts**
  ASCII / Japanese / Chinese /
  Korean (Outline font)

● **Touch Detection**
  Metallized Projective
  Capacitive Touch

● **Multiple Touch**
  supported (1-point touch for
  best wet-screen performance)

*1 : Wide operating temperature model on sale!   (4.3 inch size)

A new model with a wider operating temperature range.
A 7-inch size product will be released this summer!
Please consider using it in a harsh temperature environment.

As of Apr. 2022

*2 : There is also a model equipped with a cover glass.

Please contact us for more information.

The touch panel is made of thin glass, so be careful when handling or assembling it. The touch sensitivity characteristics differ from product to product and can vary due to the effect of ambient environment, etc., so individual tuning may be required.