An Android-based and Industrial-grade Smart Controller

In the era of IoT (Internet of Things), how to make smart terminals easily sending commands to the machine in the production line and link all production information together is an important matter. Unlike most systems on the market, Chroma’s Smart Controller is an industrial-grade controller that uses Android app and PC for software control, and featured in diversity, stability, accessibility, and expandability.

Diversity
The Smart Controller uses an Android app to integrate with various kinds of machines. All machines can be easily interacted via the app.

Stability
The controller case verified by professional ESD with cooling and anti-jamming design can run 24 hours steadily and uninterruptedly.

Accessibility
It is easy to develop applications for the controller under the Android operating system, which conforms to the future trend of using Android platform. Moreover, the dual port design can connect multiple controllers through the existing network to save the network cabling cost.

Expandability
Different apps can be applied to the controller based on the user’s requirements. In addition, a variety of application tools can be used to expand the controller’s function. The users can also expand the interfaces including CAN bus, SPI and I2C as desired.

MODEL 98015

KEY FEATURES
- Android operating system.
- Controller case verified by professional ESD with cooling and anti-jamming design
- Dual port design to connect multiple smart controllers via network and save the cabling cost
- Expandable CAN bus/SPI/I2C interfaces.
- Applicable for data collection at the end-of-line
- Easy for app development. The software can be expanded flexibly, and supports a variety of machine ports on the internet
- High computing performance, low power consumption, compact size, industrial specification compliant, and long lifespan
- Connecting external monitor for eSOP on factory site and using dongle for Wi-Fi
- Built-in screen, IO and wireless interface for access control and security zone monitoring
- Pinning the hardware location on map using the app and background applications
- Setting the hardware maintenance calendar using the app and background applications
- Suitable for production management, energy management and environmental monitoring, etc.
- Easily becoming the end-of-line device of the machines on the internet via the RS232/485 and IO port, and connecting to remote equipment through the built-in app

SMART CONTROLLER
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Creating an IoT Entrance for Smart Factory

The smart controller equipped with data processing and logical judgment abilities can be controlled remotely. It can not only collect the production data but also conduct security control, and environmental monitoring. It has greater flexibility in the application of PLC, human machine interface and automated control that makes smart factory attainable.

Controller System Architecture
Software Interface

The software control of smart controller can enable or disable the communication of various interfaces, and apply to e-SOP for the factory production line operators to use. It is also capable of monitoring the hardware status such as CPU, RAM and Disk.

In addition, all communication interfaces of the smart controller are tested before shipment to ensure the product quality.

Controller Panel Description

1. Power Switch
2. LANx2 : LAN in/Daisy Chain
3. 4.3” Display
4. HDMI
5. Micro SD
6. Wifi Dongle
7. Device USB Port
8. Audio
9. CAN/SPI/I²C
10. RS232/RS232+RS485
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>98015</th>
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<tbody>
<tr>
<td>Main I/O</td>
<td></td>
</tr>
<tr>
<td>Ethernet x 2 (In/Output)</td>
<td>Two port 10/100/BASE-TX Ethernet Switch Equipped with Daisy Chain network function</td>
</tr>
<tr>
<td>RS232 x 1 (In/Output)</td>
<td>RS232 (full duplex) x1</td>
</tr>
<tr>
<td>RS232/RS485 x 1 (In/Output)</td>
<td>RS232 (half duplex)/RS485 x1</td>
</tr>
<tr>
<td>USB x 2</td>
<td>USB2.0 host port (Type-A) - USB host supporting device, MS, KB, scanner</td>
</tr>
<tr>
<td>CAN Bus x 1</td>
<td>Reserved SPI and I²C</td>
</tr>
<tr>
<td>Audio (Output)</td>
<td>Internal speaker(1W) x 1</td>
</tr>
<tr>
<td>LCD Monitor</td>
<td>4.3” ; 480x272</td>
</tr>
<tr>
<td>VGA interface</td>
<td>External HDMI to VGA cable</td>
</tr>
<tr>
<td>HDMI interface</td>
<td>1920x1080</td>
</tr>
<tr>
<td>LED x 5 (Output)</td>
<td>Total Specs., control through GPIO, support API interface for LED control (RUN, COM1, COM1, LAN1, LAN2)</td>
</tr>
<tr>
<td>Expendable Interface</td>
<td></td>
</tr>
<tr>
<td>Wi-Fi Dongle (Consigned Part)</td>
<td>External USB Dongle</td>
</tr>
<tr>
<td>SD Card Support</td>
<td>MicroSD (Removable if housing dimension is the constraint)</td>
</tr>
<tr>
<td>Power Supply</td>
<td></td>
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<tr>
<td>External Power Supply</td>
<td>Power : 24V/2A System requires 5V/5A Plug type : A type plug with 90° angle</td>
</tr>
<tr>
<td>Controller Case</td>
<td>Metal shell with cooling design (professional ESD verified with anti-jamming design)</td>
</tr>
<tr>
<td>尺寸 (H x W x D)</td>
<td>47mm x 170mm x 95mm</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0°C~+50°C</td>
</tr>
<tr>
<td>Operating System</td>
<td>Android 4.4</td>
</tr>
</tbody>
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All specifications are subject to change without notice.

## ORDERING INFORMATION

98015 : Smart Controller
98017 : Software Interface for Smart Controller

Get more information by downloading Chroma ATE Solutions APP

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