



## Features

- Quad-core ARM Cortex-A53 Processor
- 4G LTE, LAN, WiFi and Bluetooth connectivity
- Support of Linux: Debian, Ubuntu, etc.
- 1 opto-isolated digital inputs
- 1 potential free output
- RS485
- USB host
- HDMI display up to 4096x4096 pixels
- Ethernet
- Wide power supply range
- Battery backup
- DIN rail mounting
- Aluminium enclosure

Small size multipurpose industrial Computer / Gateway based on four core powerful 64 bit Cortex A53 ARM processor. The powerful processor, compact size, wide power supply range of 8-36V and battery backup make AG-6401 perfect choice for

industrial control systems. 4K display support make this gateway useful for LED walls, LCD display and multimedia control.

| Description       | Parameter  |
|-------------------|--|
| <b>Processor</b>  |  |
| ARM               | Quad-core ARM Cortex-A53 Processor                           |
| L1 cache          | 32KB for data, 32KB for instruction                          |
| L2 cache          | 512KB  |
| Maximum frequency | 1GHz   |
| <b>RAM</b>        |  |
| Memory size       | 2GB  |
| Memory speed      | 667MHz   |
| <b>Graphics</b>   |  |
| GPU               | ARM Mali400MP2 GPU   |
| Standard support  | OpenGL ES 2.0 and OpenVG 1.1 standard                        |
| HDMI              | HDMI1.4 with HDCP1.2 up to 4K@30fps (up to 4096x4096 pixels) |
| <b>Storage</b>    |  |

| Description         | Parameter   |
|---------------------|---|
| MicroSD card        | Verson1.0 to 3.0  |
| eMMC                | 16Gb  |
| <b>USB</b>          |   |
| USB port number     | 1   |
| USB                 | 1x USB 2.0  |
| Connector           | USB type A (vertical)   |
| Protection          | IEC 61000-4-2 level 4:<br>- 15 kV (air discharge)<br>- 8 kV (contact discharge) |
| USB overload        | 1.6A  |
| <b>Serial RS485</b> |   |
| Port number         | 1   |
| Interface Type      | RS485   |
| Data Rate           | 1200bps ~ 921600bps   |
| Signals             | A and B   |
| Connector           | Pluggable screw socket  |
| Protection          | IEC 61000-4-2 level 4:  |

| Description        | Parameter  |
|--------------------|--|
|                    | <ul style="list-style-type: none"> <li>- 15 kV (air discharge)</li> <li>- 8 kV (contact discharge)</li> </ul> MIL STD 883C-Method 3015-6: class 3. (human body model)<br>Fail-safe receiver for bus open, short and idle |
| LTE/GSM Interface  |  |
| Band LTE FTD       | B1/B3/B5/B8  |
| Band LTE TDD       | B34/B38/B39/B40/B41  |
| Band GSM           | 900/1800MHz  |
| GPRS Slot          | Multi-slot class 12/10   |
| Link               | GPRS class 12: max. 85.6 kbps (downlink/uplink)  |
| Power              | Compliant to GSM phase 2/2+ <ul style="list-style-type: none"> <li>- Class 4 (2 W 900MHz)</li> <li>- Class 1 (1 W 1800MHz)</li> </ul>  |
| SIM card           | MicroSIM, push-pull type holder<br>3V/1.8V   |
| Antenna Connector  | SMA female   |
| GNSS               |  |
| GNSS Systems       | GPS, BAIDOU  |
| Antenna Connector  | SMA female   |
| Ethernet           |  |
| Number             | 1  |
| Type               | 10/100M port   |
| Ethernet Connector | RJ45 with LED indicators   |
| WiFi               |  |
| Data speed         | Up to 150Mbps  |
| Bands              | 2.4 GHz ISM  |
| Standards          | IEEE 802.11a/b/g/n   |
| Modulation schemes | DSSS, DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16QAM, 64QAM  |
| Security           | WEP, TKIP, and AES, WPA, WPA2  |
| Bluetooth          |  |
| Standard           | V4.2+EDR, 2.1/3.0, BLE dual mode   |
| Antenna            | Simultaneous BT/WLAN   |

| Description                 | Parameter   |
|-----------------------------|---|
| Digital Inputs              |   |
| Input number                | 1   |
| Input type                  | Opto-isolated 2.5kV   |
| Configuration               | AC/DC up to 60V   |
| Connector                   | Pluggable screw socket  |
| Max Vin                     | 60V DC/AC   |
| Logic 1 Voltage range       | 3.5V to max <sub>vin</sub>                                    |
| Outputs                     |   |
| Output number               | 1   |
| Output type                 | NO/ SSR type  |
| Load <sub>max</sub>         | 100mA 60V DC  |
| Connector                   | Pluggable screw socket  |
| Audio <sup>1</sup>          |   |
| Line output                 | Stereo  |
| System Functions Indicators |   |
| Indicators                  | ACT - activity - dual colour                                  |
|                             | LTE/GSM signal 4 - yellow                                     |
|                             | Internet connection - blue                                    |
|                             | LTE modem activity - green                                    |
|                             | Digital output indicator - red                                |
|                             | Digital input indicator - green                               |
|                             | RS485 data transfer - yellow                                  |
| System                      |   |
| Operating systems           | Ubuntu Linux, Debian Linux, Rasberry PI OS                    |
| Booting source              | eMMC, microSD   |
| Power Supply                |   |
| Power Voltage range         | 8-36V DC  |
| Power consumption           | 6W average  |
| Connector                   | 2 pin (+, -) Pluggable screw socket common for RS485 and I/O. |
| Protection                  | Reverse polarity  |
|                             | Over voltage  |

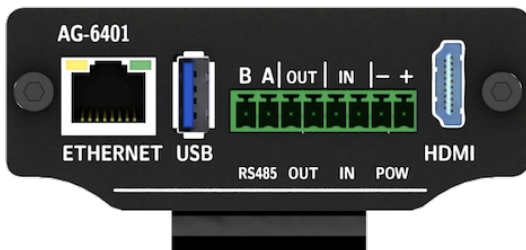
<sup>1</sup> Selected AU (sound) models only

<sup>2</sup> Selected B (battery) models only

| Description                        | Parameter                                   |
|------------------------------------|---|
| <b>Battery backup<sup>2</sup></b>  |   |
| Battery type                       | Li-Ion                                      |
| Battery voltage                    | 3.7V  |
| Backup time                        | 0.5h to 1h (approx)                         |
| Charging type                      | DC/DC system with current control           |
| Battery protection                 | Over voltage, over temperature, low battery |
| <b>Physical Characteristics</b>    |   |
| Installation                       | DIN-Rail, clamp                             |
| Housing                            | Aluminium                                   |
| Weight                             | 290g  |
| Dimensions                         | 88mm x 35mm x 87mm (W x H x D)              |
| <b>Environmental Specification</b> |   |
| Operating Temp.                    | 0 ~ 75°C (-13 ~ 167°F)                      |
| Storage Temp.                      | -20 ~ 85°C (-40 ~ 185°F)                    |
| Ambient RH                         | 5% to 95% (non-condensing)                  |

### Available models

| Models              | Hardware options |      |         |       |
|---------------------|------------------|------|---------|-------|
|                     | RAM              | eMMC | Battery | Audio |
|                     | 2GB              | 16GB |         |       |
| AG-6401-1G-8G       |                  |      |         |       |
| AG-6401-2G-16G      | ✓                | ✓    |         |       |
| AG-6401-1G-8G-B     |                  |      | ✓       |       |
| AG-6401-2G-16G-B    | ✓                | ✓    | ✓       |       |
| AG-6401-1G-8G-AU    |                  |      |         | ✓     |
| AG-6401-2G-16G-AU   | ✓                | ✓    |         | ✓     |
| AG-6401-1G-8G-B-AU  |                  |      | ✓       | ✓     |
| AG-6401-2G-16G-B-AU | ✓                | ✓    | ✓       | ✓     |





## Copyright

Copyright © 2023 Atreyo Research and Development LLP. This technical specification is protected under national and international copyright laws. No part of this user manual may be reproduced, distributed, translated, or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or storing in any information storage and retrieval system, without the prior written permission of Atreyo Research and Development LLP. Copy or use any part of this specifications is prohibited without the prior written permission from the Atreyo Research and Development LLP. Atreyo Research and Development LLP shall not unreasonably withhold or deny such consent but shall be entitled to receive additional equitable remuneration in connection with its grant of consent.

## Trademarks

Atreyo and the Atreyo logo are registered trademarks of Atreyo Research and Development LLP.

All other trademarks and copyrights are the property of their respective owners.

## Disclaimer

- All dimensions mentioned in the drawings are not to scale and may vary/differ due to construction contingencies and site conditions which are subject to change as may be decided by the company.
- The specifications and amenities mentioned in this document and promotional documents are only representational and informative. The descriptions in this specification are based on the default configuration of your device.
- Images used in this specification may differ in appearance from the actual product.
- The Atreyo Research and Development LLP reserves rights to make additions, deletions, alterations or amendments as and when it deems fit and proper, without any prior notice.

Atreyo Research  
& Development LLP

+91 9727741417  
info@atreyo.in

414, Sunrise Mall, Mansi Circle,  
Vastrapur  
Ahmedabad 380015, India