UST500-517-FL

Fanless Embedded System with 7th/6th Gen Intel® Core™, Pentium® and Celeron® Processor for Vehicle and Railway PC

Features

- CE, FCC certified, E-Mark, EN 50155 compliant
- 7th/6th gen Intel® Core™ & Pentium® processors (LGA1151 up to 65W) with Intel® Q170
- Wide operating temperatures from -40°C to +70°C (*)
- Up to 16 RJ-45 Gigabit PoE ports
- 9 to 36VDC power input, ACC ignition supported
- 2 or 4 2.5” SATA drives and 1 mSATA
- Intelligent solution of vehicle power management (ACC ignition)

*The CPU loading is applied using Passmark BurnIn Test.
For detail testing criteria, please contact Axiomtek.

Specifications

<table>
<thead>
<tr>
<th>Standard Color</th>
<th>Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Aluminum extrusion and heavy-duty steel, IP40</td>
</tr>
<tr>
<td>CPU</td>
<td>7th-gen Intel® Core™, 35W</td>
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<tr>
<td></td>
<td>6th-gen Intel® Core™, 35 to 65W</td>
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<tr>
<td></td>
<td>Intel® Pentium®, 35W</td>
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<td></td>
<td>Intel® Celeron®, 35W</td>
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<tr>
<td>Chipset</td>
<td>Intel® Q170</td>
</tr>
<tr>
<td>System Memory</td>
<td>2 x DDR4 SO-DIMM slot, up to 64GB</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI</td>
</tr>
<tr>
<td>System I/O Outlet</td>
<td></td>
</tr>
<tr>
<td>Rear Side</td>
<td>1 x 6-in/2-out isolated DIO</td>
</tr>
<tr>
<td></td>
<td>5 x Antenna opening</td>
</tr>
<tr>
<td></td>
<td>1 x DB9 RS-232/422/485</td>
</tr>
<tr>
<td></td>
<td>8/16 x PoE GbE BO2.3/at/BO2.3/at supported</td>
</tr>
<tr>
<td></td>
<td>- 8 x RJ-45 (with 2 SATA)</td>
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<tr>
<td></td>
<td>- 16 x RJ-45 (with 4 SATA)</td>
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<tr>
<td></td>
<td>- 8 x RJ-45, 8 x M12 A coded (with 4 SATA)</td>
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<tr>
<td></td>
<td>- 8 x M12 A coded (with 4 SATA)</td>
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<tr>
<td></td>
<td>1 x 3P DC-in</td>
</tr>
<tr>
<td>Front Side</td>
<td>4 x USB 3.0</td>
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<tr>
<td></td>
<td>1 x VGA</td>
</tr>
<tr>
<td></td>
<td>1 x DVI-D</td>
</tr>
<tr>
<td></td>
<td>1 x HDMI</td>
</tr>
<tr>
<td></td>
<td>1 x Reset button</td>
</tr>
<tr>
<td></td>
<td>1 x Power button</td>
</tr>
<tr>
<td></td>
<td>2 x External accessible SIM card socket</td>
</tr>
<tr>
<td></td>
<td>2 x Audio (Mic-in/Line-out)</td>
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<tr>
<td></td>
<td>1 x DB9 RS-232/422/485</td>
</tr>
<tr>
<td>Watchdog Timer</td>
<td>255 levels, 1 to 255 sec.</td>
</tr>
</tbody>
</table>

Storage

- 2 x Built-in 2.5” SATA drive (15 mm height)
- 4 x Swappable 2.5” SATA drive (15 mm height)
- 1 x mSATA (use 1 PCI Express Mini Card slot)

RAID Function

- Intel® RAID 0/1/5/10

Expansion Interface

- 2 x Full-size PCI Express Mini Card slot
- 2 x Half-size PCI Express Mini Card slot
- 2 x External accessible SIM card slot

LED indicator

- 1 x System power
- 1 x HDD active
- 2 x Programmable

PoE Power

- 802.3 at/802.3.at supported, 16-port PoE power output
- 120W (default), maximum 200W (BIOS setting)

Power Supply

- DC-input: 9 to 36 VDC, ACC ignition supported

Power Consumption

- 240VDC @90.09A

Operating Temperature

- -40°C to +70°C (-40°F to +158°F) with W.T. SSD

Humidity

- 10% to 95%, non-condensing

Vibration Endurance

- Operational: 3 Grms with SSD (5 to 500 Hz, X/Y/Z direction; random)

Dimensions

- 280 mm (11.02”) (W) x 210.5 mm (8.27”) (D) x 70 mm (2.76”) (H)
- with 2 SATA (internal accessible), w/o wall-mount
- 280 mm (11.02”) (W) x 210.5 mm (8.27”) (D) x 99.2 mm (3.91”) (H)
- with 4 SATA with wall-mount

Weight (net/gross)

- 4.92 kg (10.85 lb)/5.75 kg (12.68 lb)

Certifications

- CE, FCC certified, E-Mark, EN 50155 compliant

EOS support

- Windows® 7, Windows® 8, Windows® 10, Linux
- *Windows® 7/8 only available for Skylake processor (6th gen)
## Ordering Information

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UST500-517-FL-16RJ-4SATA-TDC (P/N: E274500100)</td>
<td>Fanless embedded system with 7/8th gen Intel® desktop processor (LGA1151), Intel® G170, VGA, DVI-D, HDMI, 6-in/2-out DIO, 2 COM, 4 USB 3.0, 16 RJ-45 Gigabit PoE, 4 SATA drive and ACC ignition</td>
</tr>
<tr>
<td>UST500-517-FL-8RJ-8M12-4SATA-TDC (P/N: E274500101)</td>
<td>Fanless embedded system with 7/8th gen Intel® desktop processor (LGA1151), Intel® G170, VGA, DVI-D, HDMI, 8-in/2-out DIO, 2 COM, 4 USB 3.0, 8 RJ-45 Gigabit PoE, 8 M12 A-coded Gigabit PoE, 4 SATA drive and ACC ignition</td>
</tr>
<tr>
<td>UST500-517-FL-8M12-4SATA-TDC (P/N: E274500102)</td>
<td>Fanless embedded system with 7/8th gen Intel® desktop processor (LGA1151), Intel® G170, VGA, DVI-D, HDMI, 6-in/2-out DIO, 2 COM, 4 USB 3.0, 8 M12 A-coded Gigabit PoE, 4 SATA drive and ACC ignition</td>
</tr>
</tbody>
</table>

**Optional**

- 2.5” SATA HDD/SSD: 128GB or above
- mSATA: 128GB
- DDR4 SD-DIMM: 4GB to 32GB
- B2BN03230140E: 3G/GPS module
- B2BK6600090E: Wi-Fi/Bluetooth module
- 594N03202730E: LAN cable (M12-A male 8P to RJ-45)

*Specifications and certifications may vary based on different requirements.

## Power Protection

- SCP (short circuit protection)
- OVP (over voltage protection)
- UVP (under voltage protection)
- RVP (reverse voltage protection)

### Vehicle Version

- ISO 7637-2 pulse 1/2/3/4
- Setting for battery protection: Low voltage or very low voltage
- Setting for ignition control: Low voltage counter, ACC-ON delay or shut down delay

## Packing List

- 1 x UST500-517-FL system unit
- 1 x Quick installation guide
- 1 x DVD (for drivers and manual)
- 1 x CPU grease
- 1 x Audio cable fixed
- 1 x HDMI cable fixed
- 3 x Cable fixed screws
- 3 x Cable tie
- 16 x HDD screws
- 1 x Terminal block
- 1 x Programming DI/DO connector
- 1 x Wall mount kit
- 4 x Wall mount kit screw (round head)
- 8 x Mini Card slot screw x 8

*Specifications and certifications may vary based on different requirements.*