

# CEM313

COM Express Type 6 Compact Module with Intel® Pentium® Processor N4200  
& Celeron® Processor N3350

## Features

- Intel® Pentium® processor N4200 & Celeron® processor N3350 (Apollo Lake)
- 2 DDR3L-1600 SO-DIMM, up to 8GB
- Max. up to 4 lanes of PCIe
- 2 SATA-600
- 4 USB 3.0 and 8 USB 2.0
- AXView 2.0 intelligent remote management software for industrial IoT applications
- TPM 1.2 supported (optional)

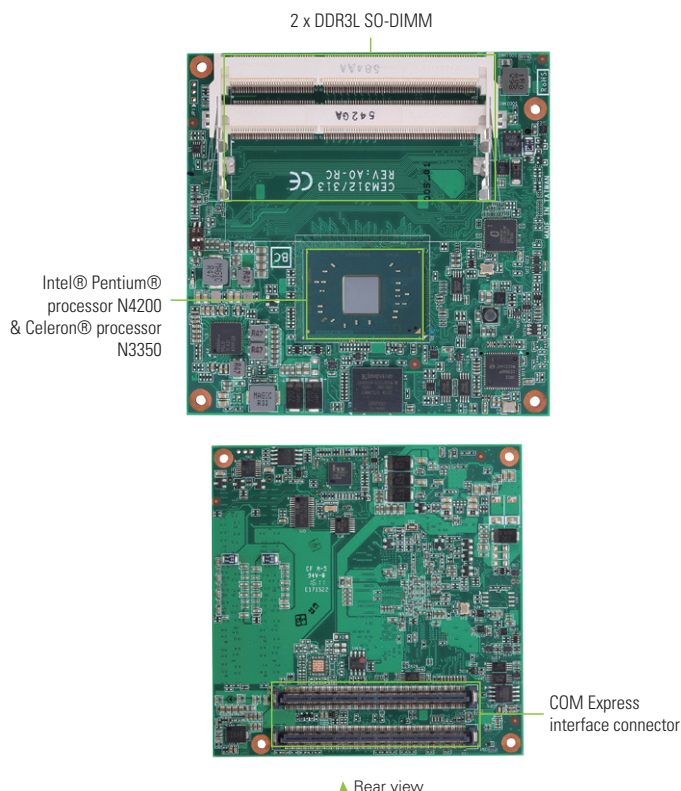


## Core System

|                     |                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------|
| CPU                 | Intel® Quad/Dual core Pentium® processor N4200 & Celeron® processor N3350 onboard (Apollo Lake) |
| System Memory       | 2 x 204-pin SO-DIMM DDR3L-1600, up to 8GB                                                       |
| Chipset             | SoC integrated                                                                                  |
| BIOS                | AMI uEFI (Legacy free)                                                                          |
| SSD                 | eMMC 5.0 up to 64GB (optional)                                                                  |
| Watchdog Timer      | 65536 levels, 0 ~ 65535 sec.                                                                    |
| Expansion Interface | 4 x PCIe lanes (3 lanes while internal LAN is connected)                                        |
| Battery Lithium     | N/A                                                                                             |
| Power Input         | ATX: 12V, +5VSB<br>AT: 12V                                                                      |
| Size                | 95 x 95 mm                                                                                      |
| Board Thickness     | 2.0 mm                                                                                          |
| Temperature         | -20°C ~ +70°C (-4°F ~ +158°F), operation                                                        |
| Operation Humidity  | 10% ~ 95% relative humidity, non-condensing                                                     |
| Vibration           | 3.5 Grms                                                                                        |

## I/O

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| MIO                 | 1 x LPC interface<br>1 x SPI interface<br>2 x Serial TX/RX<br>1 x I <sup>2</sup> C |
| SATA                | 2 x SATA-600                                                                       |
| Hardware Monitoring | Yes                                                                                |
| Ethernet            | 1 port as 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM with Intel® i211AT   |
| Audio               | HD link interface to baseboard for Codec                                           |
| USB                 | 4 x USB 3.0<br>8 x USB 2.0                                                         |
| TPM                 | TPM 1.2 (optional)                                                                 |
| SMBus               | Yes                                                                                |
| Digital I/O         | 4 channels IN & 4 channels OUT                                                     |
| Smart Battery       | Yes                                                                                |



## Display

|                   |                                                                                        |
|-------------------|----------------------------------------------------------------------------------------|
| Chipset           | Intel® gen 9 Graphics Engine<br>Supports Gfx - DX12.0, OCL 2.0, OGL 4.3                |
| Display Interface | 2 x DDI (DP, HDMI, DVI); VGA optional<br>1 x LVDS; 18/24-bit dual channel (eDP option) |

## Packing List

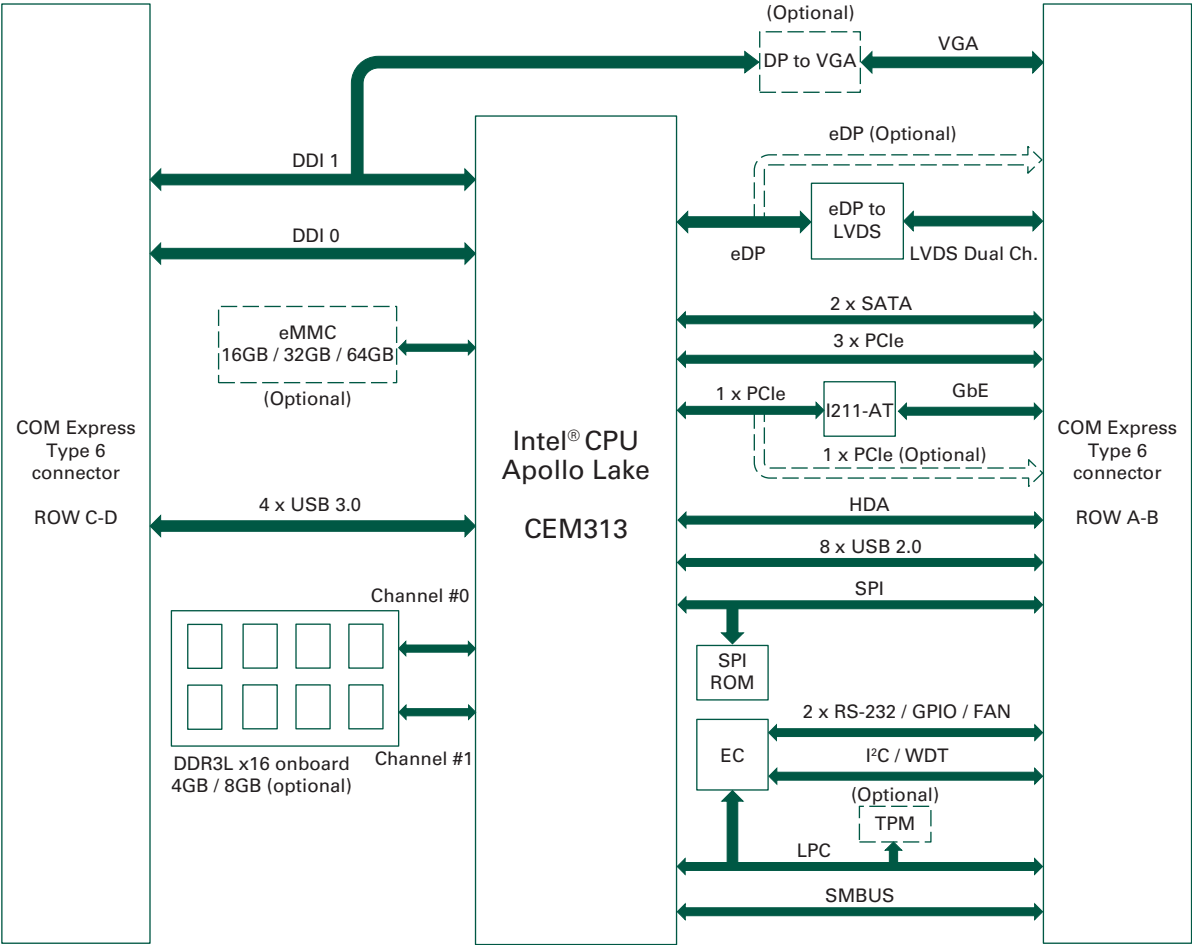
Quick installation guide; user's manual/utility CD

## Ordering Information

| Standard                            |                                                                                                       |
|-------------------------------------|-------------------------------------------------------------------------------------------------------|
| CEM313PG-N4200<br>(P/N: E38D313100) | COM Express Type 6 compact module with Intel® Pentium® processor N4200, DDI/LVDS, USB 3.0 and GbE LAN |
| CEM313PG-N3350<br>(P/N: E38D313101) | COM Express Type 6 compact module with Intel® Celeron® processor N3350, DDI/LVDS, USB 3.0 and GbE LAN |

| Optional Accessories          |                                              |
|-------------------------------|----------------------------------------------|
| CEB94011<br>(P/N: E394011100) | CEB94011 COM Express Type 6 evaluation board |
| 7128D313000E                  | CEM313 heat spreader                         |
| 7118D313000E                  | CEM313 heat sink without fan                 |

Block Digram



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