



8th/9th Gen Intel® Core™ Processor  
Desktop Box IPC



## ST102-CS

H310  
Q370

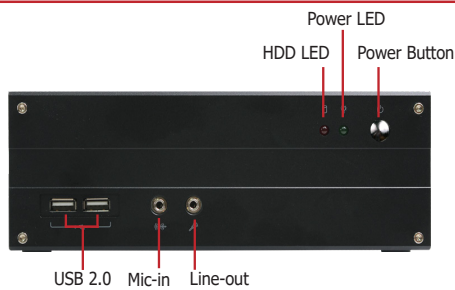


### ► Features

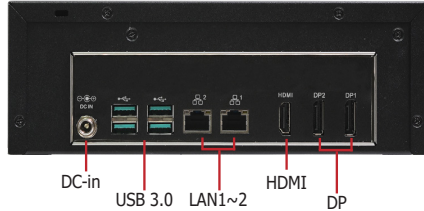
- 2DDR4 2666MHz SODIMM up to 32G
- 1x 2.5" SATA drive bay  
1x optional slim ODD bay
- 2 LAN, 6 USB



### ► Panel



Front View

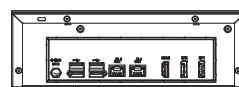


Rear View

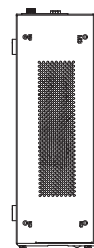


Stand View

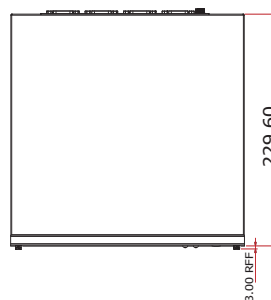
### ► Dimensions



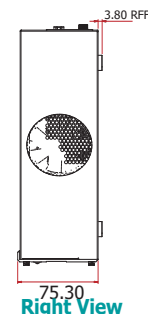
Rear View



Left View



Front View



Right View



## Specifications

|                              |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM                       | Processor                | 9th Generation Intel® Core™ Processors, LGA 1151 Socket, TDP up to 35W<br>Intel® Core i7-9700TE Processor (Core 8; Max speed 3.8 GHz; TDP 35W)<br>Intel® Core i5-9500TE Processor (Core 6; Max speed 3.6 GHz; TDP 35W)<br>Intel® Core i3-9100TE Processor (Core 4; Max speed 3.2 GHz; TDP 35W)<br>8th Generation Intel® Core™ Processors, LGA 1151 Socket, TDP up to 35W<br>Intel® Core™ i7-8700T Processor (Core 6; Max speed 4.0 GHz; TDP 35W)<br>Intel® Core™ i5-8500T Processor (Core 6; Max speed 3.5 GHz; TDP 35W)<br>Intel® Core™ i3-8100T Processor (Core 4; Max speed 3.1 GHz; TDP 35W)<br>Intel® Celeron G4900T Processor (Core 2; Max speed 2.9 GHz; TDP 35W) |
|                              | Chipset                  | Intel® H310/Q370 Chipset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                              | Memory                   | Two 260-pin SODIMM up to 32GB Dual Channel DDR4 2666MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                              | BIOS                     | AMI SPI 128Mbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                              | Controller               | Intel® UHD Graphics 630 (only Pentium G5400, Celeron G4900 support 610)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| GRAPHICS                     | Feature                  | OpenGL 4.4, DirectX 12, OpenCL 2.1<br>HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9<br>HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                              | Display                  | 1 x LVDS/eDP (eDP available upon request) LVDS: resolution up to 1920x1200 @ 60Hz<br>1 x HDMI eDP: resolution up to 4096x2304 @ 60Hz<br>2 x DP++ HDMI: resolution up to 4096x2160 @ 60Hz<br>DP1.2: resolution up to 4096x2304 @ 60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                              | Triple Displays          | 2 x DP++ & 1 x HDMI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                              |                          | 1 x 2.5" SATA bay, anti-vibration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| STORAGE                      |                          | 1 x Full-Size mini PCIe mSATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EXPANSION                    |                          | 1 x m.2 2280 mKey (PCIe x 4/SATA) Support NV memory and Intel Optane memory<br>1 x m.2 2230 EKey (USB/PCIe)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| AUDIO                        | Audio Codec              | Realtek ALC888S-VD2-GR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ETHERNET                     | Controller               | 1 x Intel® I210AT PCIe (10/100/1000Mbps)<br>1 x Intel® I219LM PCIe with iAMT11.0 (10/100/1000Mbps)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LED                          | Indicators               | 1 x Power LED<br>1 x HDD LED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FRONT I/O                    | USB                      | 2 x USB 2.0 (X100-USB2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                              | Audio                    | 1 x Line-out<br>1 x Mic-in (via cable to external interface from on board pin-header)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                              | Buttons                  | 1 x Power Button                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                              | ODD                      | Slim ODD (optional).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| REAR I/O                     | Ethernet                 | 2 x GbE (RJ-45)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                              | USB                      | 4 x USB 3.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                              | Display                  | 2 x DP++<br>1 x HDMI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                              | Antenna                  | 2 x antenna opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COOLING                      | Fan                      | 1 x System Fan<br>1 x CPU Fan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WATCHDOG TIMER               | Output & Interval        | System Reset, Programmable via Software from 1 to 255 Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| POWER                        | Type                     | 12V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                              | Connector                | DC Jack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| OS SUPPORT                   |                          | Windows 10 IoT Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MECHANISM                    | Construction             | Metal chassis + Aluminum front bezel<br>Kensington lock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                              | Mounting                 | Wall mount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                              | Dimensions ( W x H x D ) | 219mm x 75.15mm x 229.7mm (without of stand holder)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                              | Weight                   | 2.55 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ENVIRONMENT                  | Operating Temperature    | -5 to 55°C<br>The configuration with i3 CPU throttles may occur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                              | Storage Temperature      | -20 to 70°C<br>The configuration with i3 CPU throttles may occur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                              | Relative Humidity        | Operating: 10 to 85% (non-condensing)<br>Storage: 10% to 90% (non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                              |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| STANDARDS AND CERTIFICATIONS | Shock                    | Operating: 3G Non-operating: 5G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                              | Vibration                | Operating: Random 5~500Hz 1G Non-operating: Sweep Sine 10~500Hz 1.5G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                              | Package Drop             | ISTA Project 1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                              | Certification            | CE, FCC class B, RoHS, UKCA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



## ST102-CS

### Ordering Information

| Model Name      | Part Number     | Description                                           |
|-----------------|-----------------|-------------------------------------------------------|
| <b>ST102-CS</b> | 750-ST1021-000G | ST102-CS: CS101-Q370 W/TPM, F/G System RoHS           |
|                 | 750-ST1021-100G | ST102-CS: CS101-H310 W/TPM, F/G System RoHS           |
|                 | 750-ST1021-200G | ST102-CS: CS101-Q370 W/TPM, slim ODD, F/G System RoHS |
|                 | 750-ST1021-300G | ST102-CS: CS101-H310 W/TPM, slim ODD, F/G System RoHS |

### Optional Items

| Optional Items      | Part Number     | Description                                           |
|---------------------|-----------------|-------------------------------------------------------|
| <b>CPU</b>          | 143-101805-500G | i7-9700TE, 1.8GHz to 3.8GHz, 8C8T, 12M cache, TDP 35W |
|                     | 143-10220G-500G | i5-9500TE, 2.2GHz to 3.6GHz, 6C6T, 9M cache, TDP 35W  |
|                     | 143-10220E-500G | i3-9100TE, 2.2GHz to 3.2GHz, 4C4T, 6M cache, TDP 35W  |
|                     | 143-10240A-500G | i7-8700T, 2.4GHz to 4GHz, 6C12T, 12M cache, TDP 35W   |
|                     | 143-102104-501G | i5-8500T, 2.1GHz to 3.5GHz, 6C6T, 9M cache, TDP 35W   |
|                     | 143-103105-500G | i3-8100T, 3.1GHz, 4C4T, 6M cache, TDP 35W             |
| <b>DIMM</b>         | 138-540002-106G | 4GB DDR4 2666Mhz SO-DIMM 1Rx8 512Mx8 CL19 1.2V        |
|                     | 138-580004-102G | 8GB DDR4 2666Mhz SO-DIMM 1Rx8 1Gx8 CL19 1.2V          |
|                     | 138-5G0163-102G | 16GB DDR4 2666Mhz SO-DIMM 2Rx8 1Gx8 CL19 1.2V         |
| <b>SSD M.2 2280</b> | 638-712811-100G | 128GB, M.2 2280 SSD, SATA3 B+M Key, MLC               |
|                     | 638-725615-100G | 256GB, M.2 2280 SSD, SATA3 B+M Key, MLC               |
|                     | 638-712818-100G | 128GB, M.2 2280 SSD, SATA3 B+M Key, 3D TLC, PE: 3K    |
|                     | 638-725614-100G | 256GB, M.2 2280 SSD, SATA3 B+M Key, 3D TLC, PE: 3K    |
|                     | 638-701T01-100G | 1TB, M.2 2280 SSD, SATA3 B+M Key, 3D TLC, PE: 3K      |
|                     | 638-712816-110G | 128GB, M.2 2280, PCIe Gen3x4, M-Key, 3D TLC, PE: 3K   |
|                     | 638-725608-100G | 256GB, M.2 2280, PCIe Gen3x4, M-Key, 3D TLC, PE: 3K   |
|                     | 785-M264GT80    | M.2 2280, 64GB, TLC                                   |
|                     | 785-M2128GT80   | M.2 2280, 128GB, TLC                                  |
|                     | 785-M2256GT80   | M.2 2280, 256GB, TLC                                  |
|                     | 785-M2512GT80   | M.2 2280, 512GB, TLC                                  |
|                     | 785-M21TBT80    | M.2 2280, 1TB, TLC                                    |
| <b>SSD mSATA</b>    | 785-MS128GTF    | mSATA Card, 128GB 3D TLC, RoHS                        |
|                     | 785-MS256GTF    | mSATA Card, 256GB 3D TLC, RoHS                        |
|                     | 785-MS512GTF    | mSATA Card, 512GB 3D TLC, RoHS                        |
|                     | 785-MS1TTF      | mSATA Card, 1TB 3D TLC, RoHS                          |



## Optional Items

| Optional Items | Part Number     | Description                                                                                                                              |
|----------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| SSD 2.5"       | 635-600322-1A0G | 32GB, 2.5" SSD, SATA3, MLC                                                                                                               |
|                | 635-600644-100G | 64GB, 2.5" SSD, SATA3, MLC                                                                                                               |
|                | 635-601282-1E0G | 128GB, 2.5" SSD, SATA3, MLC                                                                                                              |
|                | 635-602562-121G | 256GB, 2.5" SSD, SATA3, MLC                                                                                                              |
|                | 635-605122-130G | 512GB, 2.5" SSD, SATA3, MLC                                                                                                              |
|                | 635-601286-110G | 128GB, 2.5" SSD, SATA3, 3D TLC, PE: 3K                                                                                                   |
|                | 635-602566-150G | 256GB, 2.5" SSD, SATA3, 3D TLC, PE: 3K                                                                                                   |
|                | 635-605126-140G | 512GB, 2.5" SSD, SATA3, 3D TLC, PE: 3K                                                                                                   |
|                | 635-610006-110G | 1TB, 2.5" SSD, SATA3, 3D TLC, PE: 3K                                                                                                     |
| HDD 2.5"       | 635-550092-090G | 2.5" SATAIII 500GB 5400RPM 128MB BLUE                                                                                                    |
|                | 635-500100-220G | 2.5" SATAIII 1TB 5400RPM 128MB BLUE                                                                                                      |
|                | 635-500111-000G | 2.5" SATAIII 1TB 7200RPM 64MB BLACK                                                                                                      |
|                | 785-H25500G     | 2.5" SATA HDD, 500GB, RoHS                                                                                                               |
|                | 785-H251TB      | 2.5" SATA HDD, 1TB, RoHS                                                                                                                 |
| OS             | 921-151310-000G | Win10 IoT Ent 2019 LTSC MultiLang High End EPKEA                                                                                         |
|                | 921-151320-000G | Win10 IoT Ent 2019 LTSC MultiLang High End PKEA                                                                                          |
|                | 921-151340-000G | Win10 IoT Ent 2019 LTSC MultiLang High Value EPKEA                                                                                       |
|                | 921-151330-000G | Win10 IoT Ent 2019 LTSC MultiLang High Value PKEA                                                                                        |
|                | 642-000W10-000G | Win Pro 10 64Bit English 1pk DSP OEI DVD version 1809                                                                                    |
| Adapter AC/DC  | 671-110006-100G | Power Adapter AC/DC 100W 12V, inlet C14, lockable DC Jack 5.5/2.5mm, cable length 1500mm, with DFI-JP PSE                                |
| Power Cord     | 332-700010-201G | Power Cord US 3pin 1830mm Length                                                                                                         |
|                | A81-004003-000G | Power Cord EU 2pin 1830mm Length                                                                                                         |
|                | A81-000001-000G | Power Cord China 3pin 1830mm Length                                                                                                      |
|                | A81-004056-000G | Power Cord Japan 3pin 2000mm Length                                                                                                      |
| Foot Stand     | A31-027042-210G | ST102 support frame, AL BLACK                                                                                                            |
| M.2 WIFI       | 761-OPS150-001G | 1x intel M.2 2230 AC 3168.NGWWG 802.11abgn/ac 1T1R + Bluetooth 4.2<br>2x MHF4 to SMA cable 200mm<br>2x dipole antenna<br>1x M2x4mm screw |
|                | 761-EC7003-300G | 1x Intel® Wireless-AC 9260, 2230, 2x2 AC+BT, Gigabit<br>2x MHF4 to SMA cable 200mm<br>2x dipole antenna<br>1x M2x4mm screw               |

## Packing List

- 1 ST102-CS system unit
- 1 CPU cooler
- 1 Quick Installation Guide

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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