



## Key features

The 8th/9th generation Intel® Core™ Coffee Lake-S processor

2x 1G SFP

4x Gigabit Ethernet  
2x DP

4x USB 3.0 type A  
1x USB3.0 type C

1x RS232/422/485 isolated  
Up to 32GB DDR4 Memory

1x M.2 slot 2280 NVMe  
PCIe + SATA

Built in 24VDC or 115~230VAC  
power input

Tested acc. to IACS E10/IEC 60945.  
DNV Type approved

TPM2.0 (TPM 1.2 Compatible)

# CE-CL-0x

RUGGED & RELIABLE HIGH-PERFORMANCE  
PLATFORM FOR MARITIME AND OFFSHORE

CE-CL computer features the 8th generation Intel® Core™ Coffee Lake-S processor with low power consumption and deliver a reliable, durable, high-performance platform of wide versatility for use in maritime and offshore environments. It has an isolated RS-232/422/485 port, four gigabit Ethernet LAN ports, 2x SFP ports, five USB ports and supports independent display through DP outputs.

The CE-CL series computers are designed with a wide -10°C to 55°C temperature range, supports 24VDC (or 115~230VAC) power input, and come with a fanless minimalistic enclosure design. It features a rugged chassis proven against best anti-vibration, providing a most reliable platform even in harsh environments. The CE-CL series computers are tested and type approved by DNV and EU RO Mutual Recognition.

# Technical specifications

System	
CPU	8th/9th generation Intel® Core™ Coffee Lake-S processor
BIOS	AMI BIOS
Memory	2x DDR4-2666 SO-DIMM socket, support up to 32GB, non-ECC and un-buffered
Storage	1x M.2 SATA slots (1x M.2 2280, B key (PCIe + SATA signal) + 1x m.2 2242, B key (SATA))
Ethernet	LAN chip: 4x Intel® I210-IT Gigabit LAN + 2x Intel® 210-IS 1Gb SFP
	Ethernet interface: 10/100/1000 Mbps
	Support wake up on LAN
Expansion	1x mini PCIE slot , SATA / PCIE / USB2.0

Graphics
Intel® HD Graphics

Watchdog timer
Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)

H/W status monitor
Monitoring system temperature, and voltage

I/O Interface-Front
USB: 4x USB 3.0 type A connector
Power on/off switch

I/O Interface-Rear
Ethernet: 4x RJ45/ 2x1Gb SFP
DisplayPort: 2x DP port
1x USB3.0 type C connector (DP compatible)
COM: 1x RS232/422/485
Fan/Buzzer connector: 4-pin Phoenix terminal blocks
3-pin Phoenix terminal blocks (24 VDC) or IEC power connector (115-230 VAC)

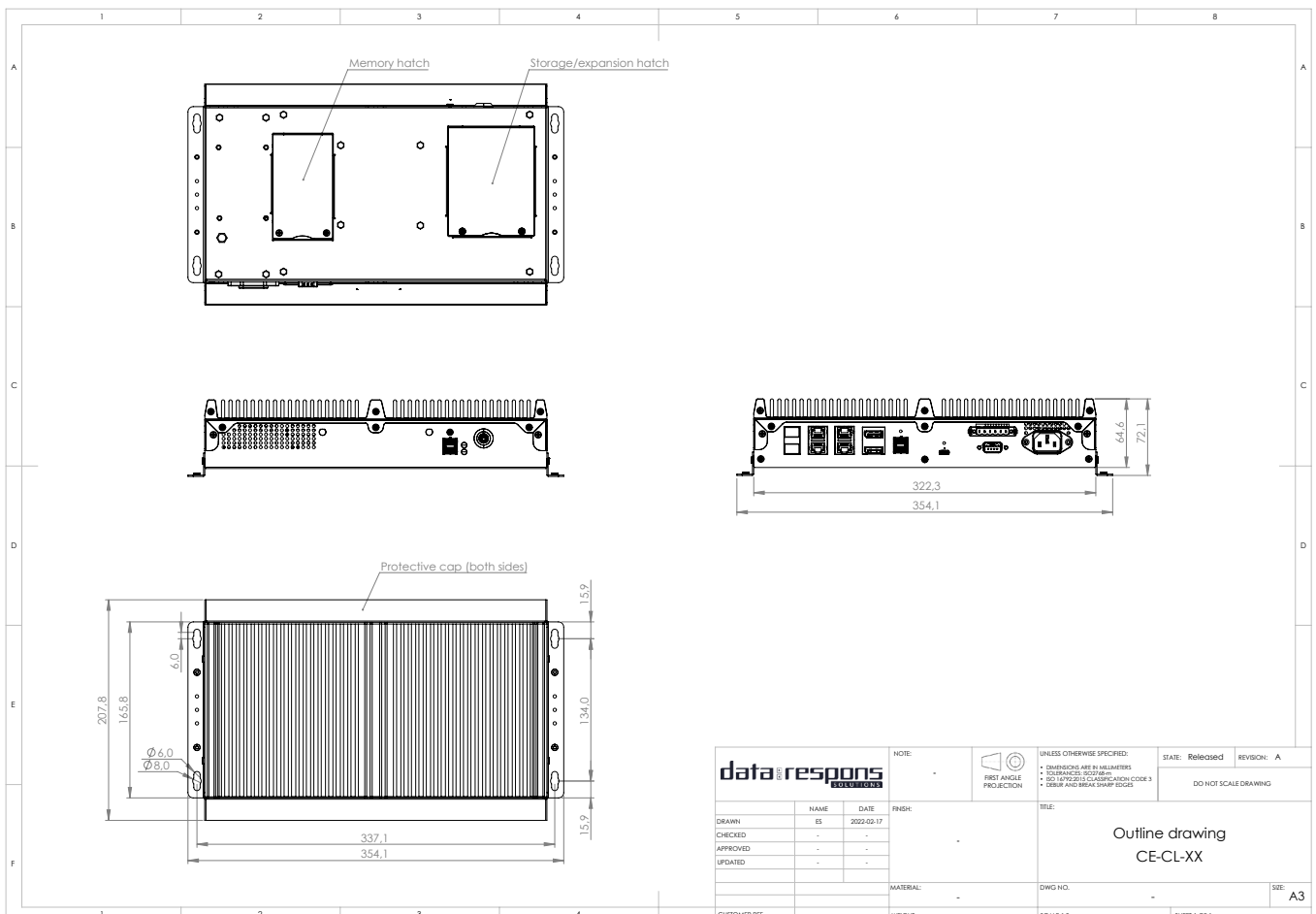
Device
1x SATA M.2 connector
1x mini-PCIe connector

Power requirements	
Power input	Input voltage: 24VDC or 115-230VAC
	Reverse polarity protection
	Galvanic isolated
	Power consumption: 35W (Typ.)

Mechanical & Environmental	
Fanless system design	
Colour	Black RAL9005, extruded and painted aluminum housing
IP protection	IP20 (IP22 with optional IP brackets mounted)
Vibration	1Grms @ random condition, 5~500Hz, 2hr/axis (operating/non-operating)
Shock	IEC 68 2-27 30G @ wall mount, half sine, 11ms
Operating temperature	-10°C to 55°C
Storage temperature	-25°C to 75°C
Operating humidity	10 % ~ 90 % relative humidity, non-condensing
Dimension	322 x 166 x 65 mm
Weight	4.7 KG

Certifications
CE approval
FCC Class A
DNV Type approval EU RO Mutual Recognition Tested according to IEC 60945 / IACS E10

# Technical drawings



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