

Superior Machine Vision System with LGA 1151 for Intel® 6th/7th Gen Processor and Q170 PCH, 2x PCIe x8



FEATURES

- LGA 1151 socket for 6th/7th Gen. Intel® Core™ i7/i5/i3 or Pentium® / Celeron® Desktop Processor
- Intel® Q170 chipset
- 2x DDR4 SODIMM. max up to 32GB
- Triple independent display supported by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x 2.5" SATA HDD Bay, 2x mSATA (shared by 2x mini PCIe), and 1x CFast supporting RAID 0, 1, 5, 10
- 3x full-size mini PCIe for communication or expansion modules
- 4x RS-232/422/485 (w/ 2x internal), 4x USB 3.0, TPM 2.0
- 2x PCIe x8 expansion
- 8x DI + 8x DO with isolation
- 9 to 50VDC wide range power input supporting AT/ATX mode
- -25°C to 70°C extended operating temperature

SPECIFICATIONS

System

Processor
Support 6th & 7th Gen Intel® Core™ i7 / i5 / i3 / Pentium® / Celeron® Desktop Processor (LGA 1151)

- 7th Gen Intel® Core™ i7-7700T, Quad Core, 8MB cache, up to 3.8 GHz
- 7th Gen Intel® Core™ i5-7500T, Quad Core, 6MB cache, up to 3.3 GHz
- 7th Gen Intel® Core™ i3-7101TE, Dual Core, 3MB Cache, 3.4 GHz
- 6th Gen Intel® Core™ i7-6700TE, Quad Core, 8MB cache, up to 3.4 GHz
- 6th Gen Intel® Core™ i5-6500TE, Quad Core, 6MB Cache, up to 3.3 GHz
- 6th Gen Intel® Core™ i3-6100TE, Dual Core, 4MB Cache, 2.7 GHz
- Intel® Pentium® G4400TE, Dual Core, 3MB Cache, 2.4 GHz
- Intel® Celeron® G3900TE, Dual Core, 2MB Cache, 2.3 GHz

System Chipset	Intel® Q170 Express Chipset
LAN Chipset	GbE1: Intel® I210-AT (Support Wake-on-LAN and PXE) GbE2: Intel® I219LM (Support Wake-on-LAN and PXE)
Audio Codec	Realtek ALC888S
System Memory	2x DDR4 1866/2133MHz SODIMM. Max. up to 32GB
BIOS	AMI 128Mbit SPI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0

Display

DVI	1x DVI-I
DisplayPort	2x DisplayPort
Multiple Display	Triple Display

Storage

SSD/HDD	2x Removable 2.5" SATA HDD Bay Support RAID 0, 1, 5, 10
mSATA	2x mSATA (shared by 2x Mini PCI Express)
CFast	1x CFast

Expansion

Mini PCI Express	3x Full-size Mini PCIe (shared by 2x mSATA)
PCI Express	2x PCIe x16 (8-lane)
Card Dimension	235 (L) x 112 (H) mm

I/O

COM	2x RS-232/422/485 2x RS-232/422/485 (Internal)
USB	4x USB 3.0
LAN	2x RJ45
Audio	1x Mic-in, 1x Speaker-out
DIO	8 in / 8 out (Isolated)
Universal I/O Bracket	1x Universal I/O Bracket (By mini PCIe interface)
Others	2x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch

Operating System

Windows	6 th Gen CPU: Windows 10, Windows 7, WES7 7 th Gen CPU: Windows 10
Linux	Linux kernel 4.X

Power

Power Mode	AT, ATX
Power Supply Voltage	9~50VDC
Power Connector	3-pin Terminal Block
Power Adaptor	Optional AC/DC 24V/5A, 120W
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

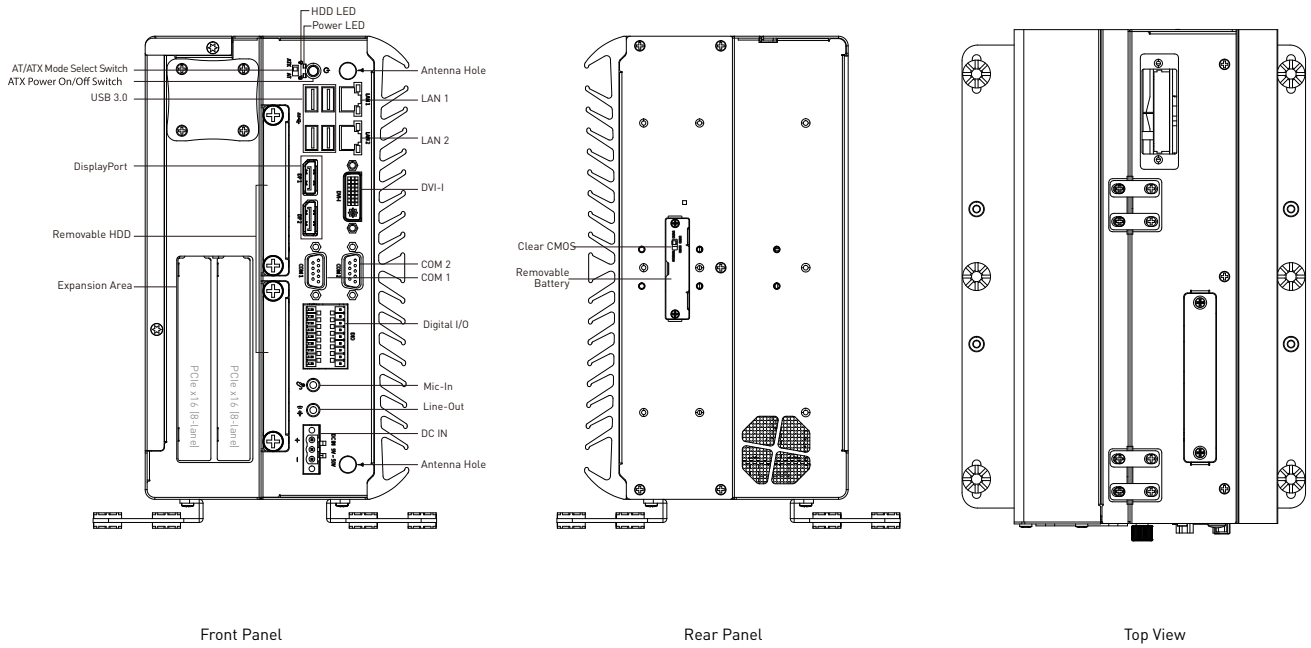
Environment

Operating Temp.	-25°C to 70°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Vibration	With SSD: 3 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 50G, half sine, 11ms
Standards / Certification	CE, FCC Class A

Physical

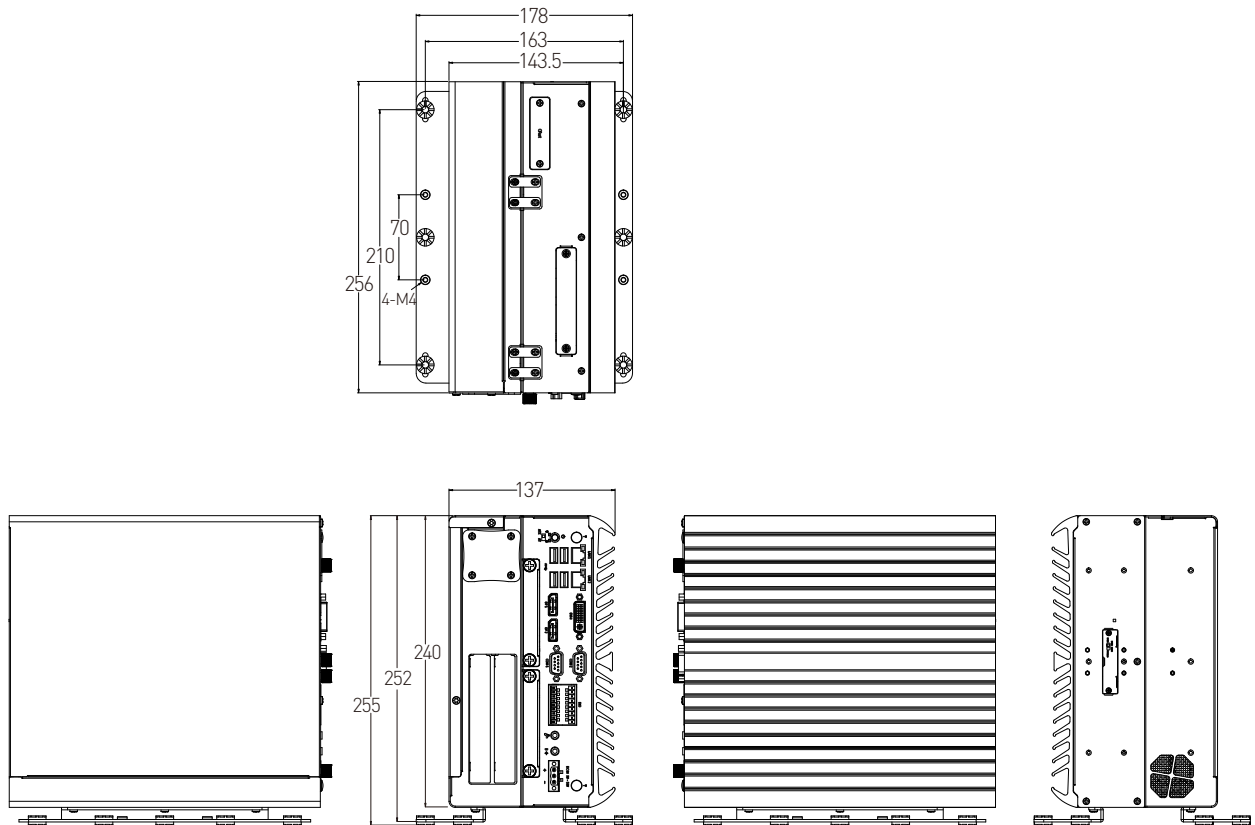
Construction	Extruded Aluminum with Heavy Duty Metal
Dimension	137 (W) x 256 (D) x 240 (H) mm
Weight	5.34 kg
Mounting	Wall / Book Mounting DIN-Rail Mounting (Optional)

EXTERNAL I/O MECHANICAL LAYOUT



DIMENSION

Unit: mm



ORDERING INFORMATION

MODEL NO.	DESCRIPTION
1-E09A12002	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

PACKING LIST

- 1x VCO-6000 Series Embedded System
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit

AVAILABLE MODELS

MODEL NO.	DESCRIPTION
VCO-6022E	Superior Machine Vision System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x PCIe x8

Superior Machine Vision System with LGA 1151 for Intel® 6th/7th Gen Processor and Q170 PCH, 2x PCI



FEATURES

- LGA 1151 socket for 6th/7th Gen. Intel® Core™ i7/i5/i3 or Pentium® / Celeron® Desktop Processor
- Intel® Q170 chipset
- 2x DDR4 SODIMM. max up to 32GB
- Triple independent display supported by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x 2.5" SATA HDD Bay, 2x mSATA (shared by 2x mini PCIe), and 1x CFast supporting RAID 0, 1, 5, 10
- 3x full-size mini PCIe for communication or expansion modules
- 4x RS-232/422/485 (w/ 2x internal), 4x USB 3.0, TPM 2.0
- 2x PCI expansion
- 8x DI + 8x DO with isolation
- 9 to 50VDC wide range power input supporting AT/ATX mode
- -25°C to 70°C extended operating temperature

SPECIFICATIONS

System

Processor
Support 6th & 7th Gen Intel® Core™ i7 / i5 / i3 / Pentium® / Celeron® Desktop Processor (LGA 1151)

- 7th Gen Intel® Core™ i7-7700T, Quad Core, 8MB cache, up to 3.8 GHz
- 7th Gen Intel® Core™ i5-7500T, Quad Core, 6MB cache, up to 3.3 GHz
- 7th Gen Intel® Core™ i3-7101TE, Dual Core, 3MB Cache, 3.4 GHz
- 6th Gen Intel® Core™ i7-6700TE, Quad Core, 8MB cache, up to 3.4 GHz
- 6th Gen Intel® Core™ i5-6500TE, Quad Core, 6MB Cache, up to 3.3 GHz
- 6th Gen Intel® Core™ i3-6100TE, Dual Core, 4MB Cache, 2.7 GHz
- Intel® Pentium® G4400TE, Dual Core, 3MB Cache, 2.4 GHz
- Intel® Celeron® G3900TE, Dual Core, 2MB Cache, 2.3 GHz

System Chipset	Intel® Q170 Express Chipset
LAN Chipset	GbE1: Intel® I210-AT (Support Wake-on-LAN and PXE) GbE2: Intel® I219LM (Support Wake-on-LAN and PXE)
Audio Codec	Realtek ALC888S
System Memory	2x DDR4 1866/2133MHz SODIMM. Max. up to 32GB
BIOS	AMI 128Mbit SPI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0

Display

DVI	1x DVI-I
DisplayPort	2x DisplayPort
Multiple Display	Triple Display

Storage

SSD/HDD	2x Removable 2.5" SATA HDD Bay Support RAID 0, 1, 5, 10
mSATA	2x mSATA (shared by 2x Mini PCI Express)
CFast	1x CFast

Expansion

Mini PCI Express	3x Full-size Mini PCIe (shared by 2x mSATA)
PCI	2x PCI
Card Dimension	235 (L) x 112 (H) mm

I/O

COM	2x RS-232/422/485 2x RS-232/422/485 (Internal)
USB	4x USB 3.0
LAN	2x RJ45
Audio	1x Mic-in, 1x Speaker-out
DIO	8 in / 8 out (Isolated)
Universal I/O Bracket	1x Universal I/O Bracket (By mini PCIe interface)
Others	2x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch

Operating System

Windows	6 th Gen CPU: Windows 10, Windows 7, WES7 7 th Gen CPU: Windows 10
Linux	Linux kernel 4.X

Power

Power Mode	AT, ATX
Power Supply Voltage	9~50VDC
Power Connector	3-pin Terminal Block
Power Adaptor	Optional AC/DC 24V/5A, 120W
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

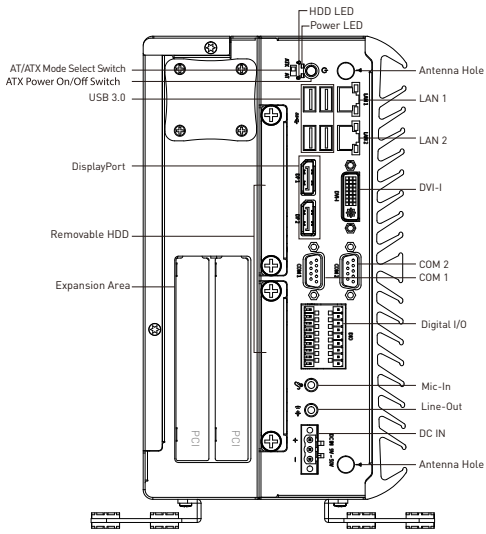
Environment

Operating Temp.	-25°C to 70°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Vibration	With SSD: 3 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 50G, half sine, 11ms
Standards / Certification	CE, FCC Class A

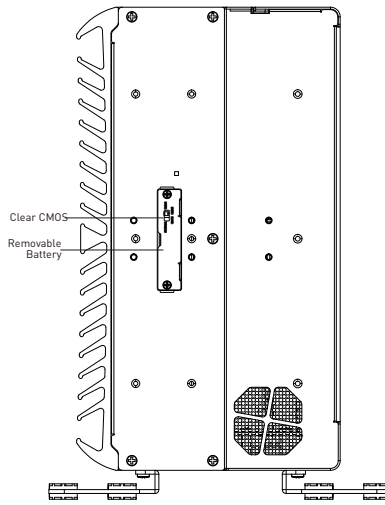
Physical

Construction	Extruded Aluminum with Heavy Duty Metal
Dimension	137 (W) x 256 (D) x 240 (H) mm
Weight	5.37 kg
Mounting	Wall / Book Mounting DIN-Rail Mounting (Optional)

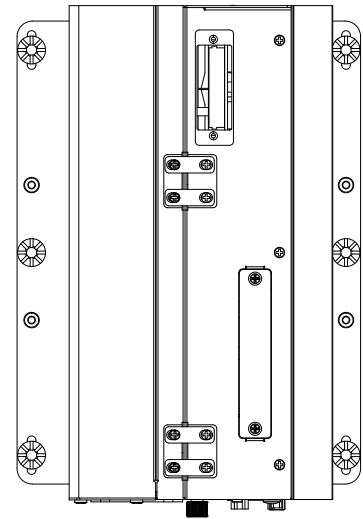
EXTERNAL I/O MECHANICAL LAYOUT



Front Panel



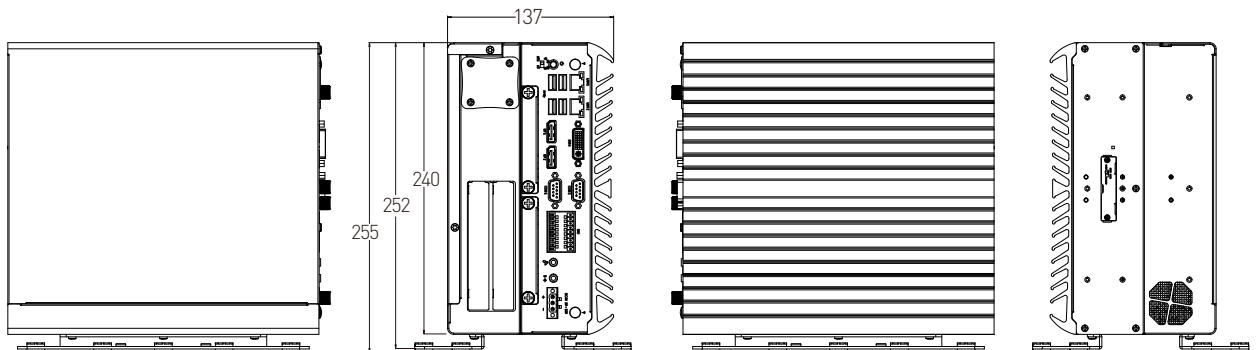
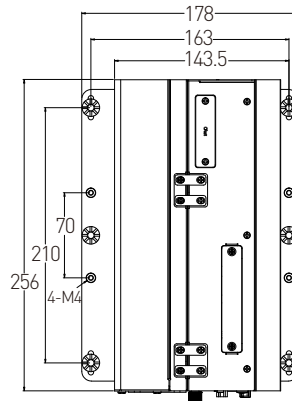
Rear Panel



Top View

DIMENSION

Unit: mm



ORDERING INFORMATION

MODEL NO.	DESCRIPTION
1-E09A12002	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

PACKING LIST

- 1x VCO-6000 Series Embedded System
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit

AVAILABLE MODELS

MODEL NO.	DESCRIPTION
VCO-6022P	Superior Machine Vision System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x PCI

Superior Machine Vision System with LGA 1151 for Intel® 6th/7th Gen Processor and Q170 PCH, 1x PCIe x16, 1x PCI



FEATURES

- LGA 1151 socket for 6th/7th Gen. Intel® Core™ i7/i5/i3 or Pentium® / Celeron® Desktop Processor
- Intel® Q170 chipset
- 2x DDR4 SODIMM. max up to 32GB
- Triple independent display supported by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x 2.5" SATA HDD Bay, 2x mSATA (shared by 2x mini PCIe), and 1x CFast supporting RAID 0, 1, 5, 10
- 3x full-size mini PCIe for communication or expansion modules
- 4x RS-232/422/485 (w/ 2x internal), 4x USB 3.0, TPM 2.0
- 1x PCIe x16 and 1x PCI expansion
- 8x DI + 8x DO with isolation
- 9 to 50VDC wide range power input supporting AT/ATX mode
- -25°C to 70°C extended operating temperature

SPECIFICATIONS

System

Processor
Support 6th & 7th Gen Intel® Core™ i7 / i5 / i3 / Pentium® / Celeron® Desktop Processor (LGA 1151)

- 7th Gen Intel® Core™ i7-7700T, Quad Core, 8MB cache, up to 3.8 GHz
- 7th Gen Intel® Core™ i5-7500T, Quad Core, 6MB cache, up to 3.3 GHz
- 7th Gen Intel® Core™ i3-7101TE, Dual Core, 3MB Cache, 3.4 GHz
- 6th Gen Intel® Core™ i7-6700TE, Quad Core, 8MB cache, up to 3.4 GHz
- 6th Gen Intel® Core™ i5-6500TE, Quad Core, 6MB Cache, up to 3.3 GHz
- 6th Gen Intel® Core™ i3-6100TE, Dual Core, 4MB Cache, 2.7 GHz
- Intel® Pentium® G4400TE, Dual Core, 3MB Cache, 2.4 GHz
- Intel® Celeron® G3900TE, Dual Core, 2MB Cache, 2.3 GHz

System Chipset	Intel® Q170 Express Chipset
LAN Chipset	GbE1: Intel® I210-AT (Support Wake-on-LAN and PXE) GbE2: Intel® I219LM (Support Wake-on-LAN and PXE)
Audio Codec	Realtek ALC888S
System Memory	2x DDR4 1866/2133MHz SODIMM. Max. up to 32GB
BIOS	AMI 128Mbit SPI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0

Display

DVI	1x DVI-I
DisplayPort	2x DisplayPort
Multiple Display	Triple Display

Storage

SSD/HDD	2x Removable 2.5" SATA HDD Bay Support RAID 0, 1, 5, 10
mSATA	2x mSATA (shared by 2x Mini PCI Express)
CFast	1x CFast

Expansion

Mini PCI Express	3x Full-size Mini PCIe (shared by 2x mSATA)
PCI Express	1x PCIe x16
PCI	1x PCI
Card Dimension	235 (L) x 112 (H) mm

I/O

COM	2x RS-232/422/485 2x RS-232/422/485 (Internal)
USB	4x USB 3.0
LAN	2x RJ45
Audio	1x Mic-in, 1x Speaker-out
DIO	8 in / 8 out (Isolated)
Universal I/O Bracket	1x Universal I/O Bracket (By mini PCIe interface)
Others	2x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch

Operating System

Windows	6 th Gen CPU: Windows 10, Windows 7, WES7 7 th Gen CPU: Windows 10
Linux	Linux kernel 4.X

Power

Power Mode	AT, ATX
Power Supply Voltage	9-50VDC
Power Connector	3-pin Terminal Block
Power Adaptor	Optional AC/DC 24V/5A, 120W
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

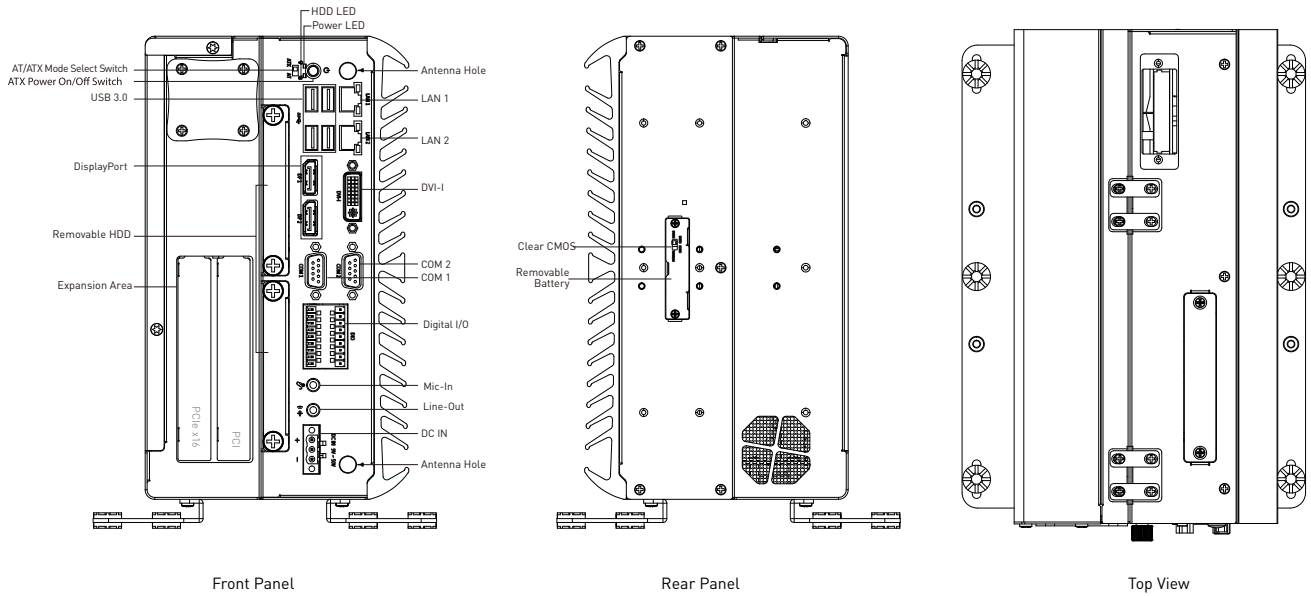
Environment

Operating Temp.	-25°C to 70°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Vibration	With SSD: 3 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 50G, half sine, 11ms
Standards / Certification	CE, FCC Class A

Physical

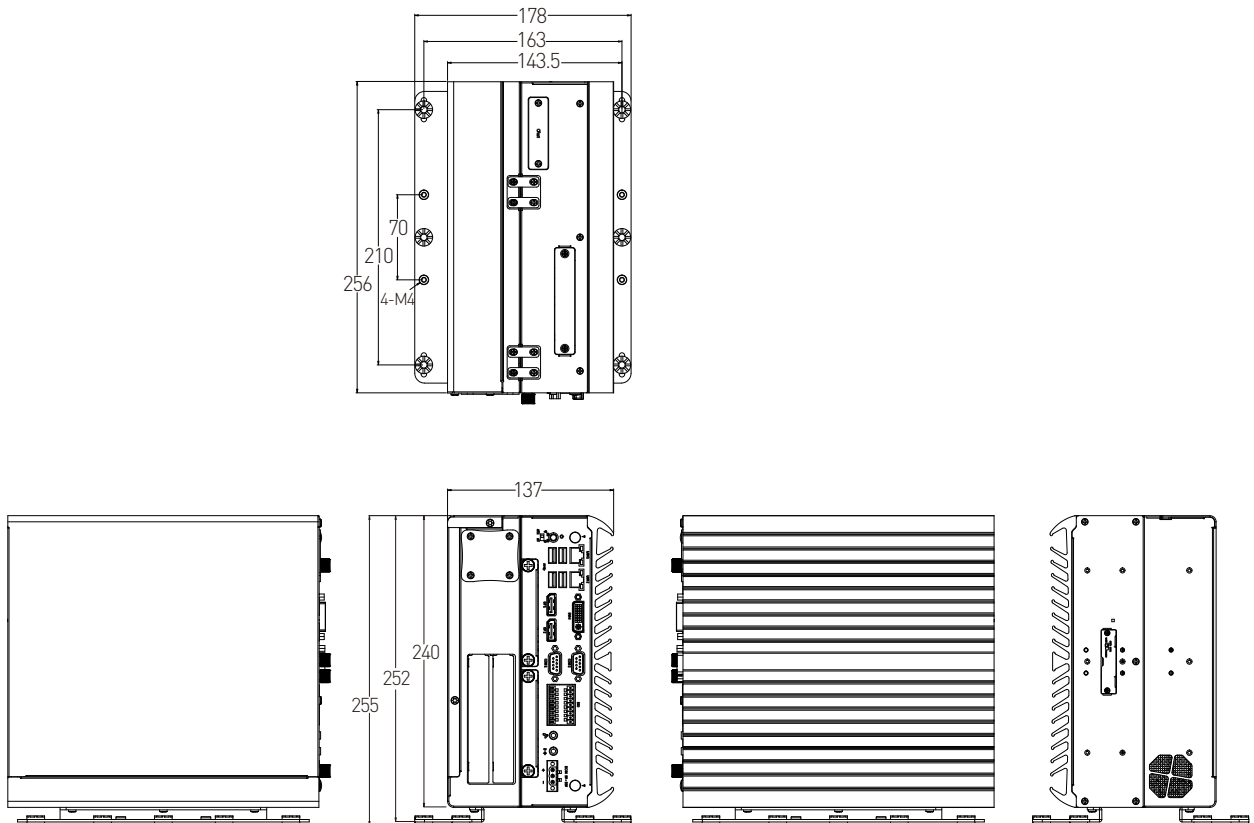
Construction	Extruded Aluminum with Heavy Duty Metal
Dimension	137 (W) x 256 (D) x 240 (H) mm
Weight	5.39 kg
Mounting	Wall / Book Mounting DIN-Rail Mounting (Optional)

EXTERNAL I/O MECHANICAL LAYOUT



DIMENSION

Unit: mm



ORDERING INFORMATION

MODEL NO.	DESCRIPTION
1-E09A12002	Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

PACKING LIST

- 1x VCO-6000 Series Embedded System
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit

AVAILABLE MODELS

MODEL NO.	DESCRIPTION
VCO-6022C	Superior Machine Vision System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 1x PCIe x16, 1x PCI