Please read the instructions in detail before using the product

DVC-20 User's Guide

Verion：v1.0

Update Table

Version	Changelist	Author	Date
V1.0	*First Version*	*WURUI*	*2022/12/15*
		Reviewer： Peng Yincan	

contents

1 Attention

Brand

Product name and brand mentioned in this user's guide are the property of the company.

Notices:

1. Please read the instructions in detail before using the motherboard to avoid damaging the motherboard by wrong operation.
2. Please store or use the product in the environment of -10℃ <=Work Station <=+50 ℃, 95%RH, to avoid damaging the product for too hot or cold.
3. Please do not do strongly mechanical shake, and do not operate the product before ESD protection.
4. Please disconnect all power cables from the existing system before you add or remove a device.
5. Make sure your power supply is set to correct voltage, namely DC 12V
6. Forbid to repair, modify or alter the product by self. If it causes any damage, we don’t take any responsibility.

2.specifications

Main features	
Processor	Intel Apollo Lake-D J3455 Intel® Celeron® Processor (TDP 10W)①
Memory	4G DDR3L-1600MT/s
Storage	1×M.2 2280 M-Key 16GB EMMC
Network	4×RJ45 Gigabit Ethernet Interfaces (Ethernet Controller: Realtek 8111H)
	WNFQ-258ACN(BT)
Extension features	
IO interface	1×HDMI 2.0 Display Port （Max Resolution：4096x2160@60Hz）
	4×RJ45 Gigabit Ethernet Interface
	2×USB3.0 Ports
	4× Serial Ports（COM1 supports TTL,COM2 supports RS232,COM3&4 supports RS232/485 selections）
	1*LINE-OUT
	1*CEC-IR
	1*KNX
	2×Reserved antenna holes
Extension Slots	1×M.2 2230 E-Key for WIFI & Bluetooth Module extension
System features	
O.S	Ubuntu
Power Supply	12V/7.5A DC Input
	DC2.5 metal threaded joint
Mechanical features	
Materials	SGCC
Dimensions	227mm（L）×116.2mm（W）×37.4mm（H）
Installation	Wall mount
Operating environment	
Temperature	Operating temperature：-10℃~+50℃ Storage temperature：-40℃~+85℃
Relative humidity	Power Off: 95%，does not condense at 25 to 30 temperatures

Notice：

①J3455：4-core 4-thread, 1.5GHz main frequency, graphics:Intel® HD Graphics 500

3 Product view

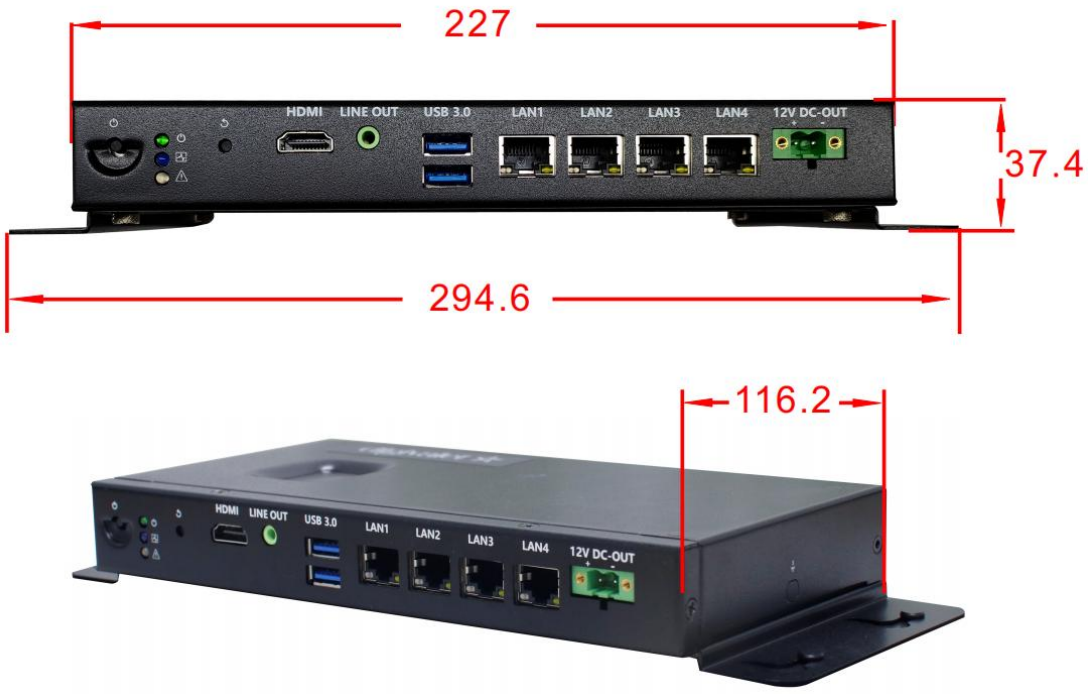
3.1 Product pictures

IO in the back

IO in the front

Side view

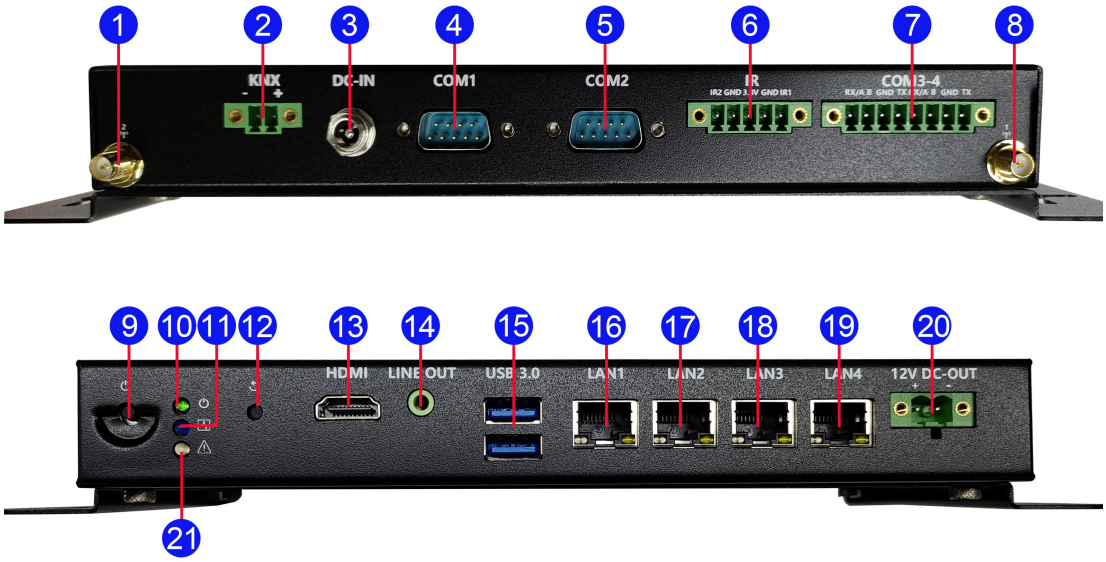
3.2 Physical dimensions



Notice:：The dimensions in the drawing are uniform in millimeters（mm）.

4 Interface Introduce

4.1 Function indication diagram of chassis interface



Interface Description:

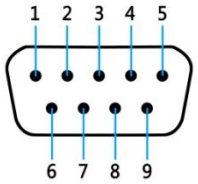
1. Reserved antenna hole 2
2. 3.81-2pin KNX Terminals
3. DC2.5 metal threaded joint
4. DB9 Serial Port 1
5. DB9 Serial Port 2
6. 3.81-5pin CEC_IR Terminals
7. 3.81-8pin Terminals(COM3~COM4)
8. Reserved antenna hole 1
9. Power button
10. Power status indicator LED（green，on）
11. Network connection light
12. System reset button
13. HDMI 2.0b display Port
14. LINE-OUT audio output interface
15. Double layer USB3.0 Type-A Port
16. RJ45 Gigabit Ethernet 1
17. RJ45 Gigabit Ethernet 2
18. RJ45 Gigabit Ethernet 3
19. RJ45 Gigabit Ethernet 4
20. 5.08-2pin DC-OUT Terminals
21. Abnormal display indicator LED

4.2 Pin Definition

（1）COM1~4 Serial Ports

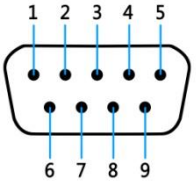
Notice： COM1 supports TTL：

pin#	Signal	pin#	Signal
1		6	DV-ICE
2	TTL_RXD	7	
3	TTL_TXD	8	
4		9	
5	GND		



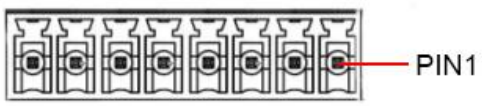
Notice： COM2 supports RS232：

pin#	Signal	pin#	Signal
1		6	DV-ICE
2	232_RXD	7	
3	232_TXD	8	
4		9	
5	GND		



Notice： COM3、COM4 can select RS232/RS485 by Setting BIOS parameters. The Pin definitions are shown in the table below：

pin	Pin definitions	
	RS232	RS485
1	DCD	D-
2	SIN	D+
3	SOUT	
4	DTR	
5	GND	GND
6	DSR	
7	RTS	
8	CTS	
9	RI	



（2）HDMI Interface

Use standard HDMI definition, omitted here.

（3）USB Interface

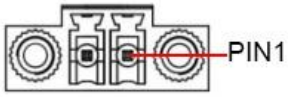
Use standard USB Type-A definition, omitted here.

（4）Audio Interface

LINE-OUT Use standard 3.5mm audio interface definition, omitted here.

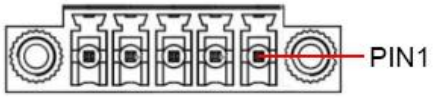
（5）KNX

JP/CN	pin#	Signal
KNX	1	KNX-
	2	KNX+



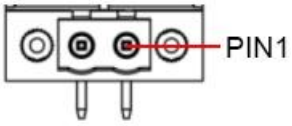
（6）IR

JP/CN	pin#	Signal
IR	1	IR2
	2	GND
	3	+3.3V
	4	GND
	5	IR1



（7）DC-OUT

JP/CN	pin#	Signal
DC_OUT	1	12V
	2	GND



（8）DC-IN

JP/CN	pin#	Signal
DC_IN	1	12V
	2	GND

FCC Warning
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any inte rference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferenceto radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
•Increase the separation between the equipment and receiver.
•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
•Consult the dealer or an experienced radio/TV technician for help.
Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.