

Automation for a Changing World

# DELTA Panel PC PPC19X100 User Manual

- DIAVH-PPC193100
   DIAVH-PPC195100
   DIAVH-PPC193101
   DIAVH-PPC195101
   DIAVH-PPC193102
   DIAVH-PPC195102
- DIAVH-PPC193103
- DIAVH-PPC195103
- DIAVH-PPC193104
- DIAVH-PPC195104
- DIAVH-PPC193105
- DIAVH-PPC195105





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# **Safety Instructions**

- 1. Please read the user manual carefully before using the product, and carefully keep it for future reference.
- 2. Before connecting power supply to the product, please confirm the voltage is compliant with the requirement of the device.
- 3. To avoid electric shock or damage to the product, please unplug the power cord from the socket before cleaning the device by wet rag.
- 4. Please do not use liquid or aerosol cleaner to clean up the device.
- 5. To avoid short circuit or fire, please do not let any liquid get into or splash into the product.
- 6. For a device which needs to use power cord, there must be an easy-to-reach power socket around the device.
- 7. Please do not use the product in a damp environment.
- 8. Before installation, please make sure the device is placed on a solid surface; accidental drop or tipping may cause malfunction or damage to the device.
- 9. Before you connect or unplug any signal cable, make sure all power cords are unplugged in advance.
- 10. To avoid unnecessary damage caused by frequent power-on/off, wait at least 30 seconds after turning off the computer before re-turning on the computer.
- 11. If the product will not be used for a long time, please disconnect the power cord, to avoid damage to the product by transient voltage.
- 12. If the product needs to be upgraded, installed or dismantled, please implement all the operation on an ESD workstation, for some precision devices are sensitive to ESD;
- 13. Ensure excellent heat dissipation and ventilation of the system.
- 14. Please do not open or dismantle the device by yourself. For the sake of safety, this device can only be opened by a professional maintenance person.

#### Packing List

A fanless industrial Computer 1\*AC 110V~240V to DC+12V/5A power adapter 1\*AC220V power cable 2\*Mounting Bracket & 6\*Screw 1\*Driver CD & manual 1\*Certification

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# **Brief Introduction**

### **1.1 Introduction**

DIAVH-PPC19X100 is a low-power-consumption, high-performance and Fanless embedded industrial computer, and its material is high-strength and elegant al-alloy and the radiator high-density al-alloy.

This product is with on-board low power consumption Intel Core I3-3227U (spare part 3217U) / I5-3337U (spare part 3317U), Max to 8GB DDRIII RAM, and it has rich I/O interfaces and it is with fully-sealed Fanless design, supporting windows XP/Windows 7/ Linux and so on.

This product can be used in the field of mechanical equipment, intelligent transportation, industrial automation control and other different embedded solutions.

### **1.2 Product Specifications**

Model Name	DIAVH-PPC193100/ DIAVH-PPC195100			
	Display	19-inch TFT LCD		
	Resolution	19"1440x900		
<b>Display Features</b>	Brightness	19" 250 cd/m2		
	Contrast Ratio	19" 1000:1		
	Touch Screen	Resistive touch screen		
	Chipset (Processor)	Intel® Core I3-3227U (Main) I3-3217U (Alternative) Intel® Core I5-3337U (Main) I5-3317U (Alternative)		
Performance	Memory	4 GB DDRIII memory		
	Hardware Monitor	Monitor's voltage and CPU temperature		
	Storage	512G SSD		
<b>D</b>	Power Supply	100 ~ 240 VAC / 50 ~ 60 Hz (with power adapter)		
Power Characteristics	Power Consumption	12 VDC / 5 A or 9 ~ 36 VDC Optional (without power adapter)		
	USB	4x USB 2.0 ports		
I/O Interface	Serial COM Port	15"3x Serial COM ports (2 * RS232, 1* RS422/485) 19"4x Serial COM ports (3x RS-232, 1x RS-485/RS- 422)		
	Ethernet Port Audio Output Display	2x RTL8111E RJ45 Gigabit Ethernet LAN 1x Audio output 1x VGA, 1x HDMI		
Operating System	Operating System	Windows 7		
	Anti-Vibration	5 ~ 19 Hz /1.0 mm amplitude;19 ~ 200 Hz /1.0 g acceleration		
	Anti-Shock	10 g acceleration, 11 ms duration		
	IP Rating	Front Panel IP65 (Optional)		
Environmental	Reliability	MTBF ≥ 50000 h; MTTR ≤ 0.5 h		
Test	Temperature	-10ºC ~ 50ºC (with air flow)		
	Storage Temperature	-20°C ~ 60°C		
	Operating Humidity	95 % @40°C, non-condensing		
	Dimensions	19" 475 mm (L) x 308 mm (W) x 60 mm (H)		
Mechanical Properties	Material	Aluminum alloy metal shell, fully-sealed fanless design		
	Weight	19" 7.8 kg / 9.3 kg (net weight / gross weight)		
	Color	Silver		

### 1.3 I/O

### $\mathsf{DIAVH}\text{-}\mathsf{PPC193100/01/02/03/04/05}\ (\ \mathsf{DIAVH}\text{-}\mathsf{PPC195100/01/02/03/04/05}\ )$



Picture 1-1

1.	Power	2.	USB	3.	HDMI	4.	VGA	5.	LAN
6.	Line out	7.	COM 1	8.	COM 2	9.	COM 3	10.	COM 4
11.	DC In								

# **Application Planning**

### 2.1 Transportation

Well-packaged products are suited for transportation by truck, ship, and plane. During transportation, products should not be put in open cabin or carriage. During transpipping, products should not be stored in open air without protection from the atmospheric conditions. Products should not be transported together with inflammable, explosive and corrosive substances and are not allowed to be exposed to rain, snow and liquid substances and mechanical force.

### 2.2 Storage Requirements

Products should be stored in package box when it is not used. And warehouse temperature should be  $20^{\circ}$ C~ $70^{\circ}$ C, and relative humidity should be  $20\% \sim 85\%$ . In the warehouse, there should be no harmful gas, inflammable, explosive products, and corrosive chemical products, and strong mechanical vibration, shock and strong magnetic field interference. The package box should be at least 10cm above ground, and 50cm away from wall, thermal source, window and air inlet



### 2.3 Unpack and check the delivered equipment

Unpack the equipment

Pay attention to the following things when you unpack the equipment.

- Please take the advice not to throw away the original packaging material and please retain to use it when the equipment should be transported again.
- Please put the document in a safe place. It will be used in the initial adjustment of equipment and it is a part of the equipment.
- When you check the delivered equipment, please check whether it is obviously damaged during the transportation.
- Please check whether the delivered parcel includes the whole equipment and the accessories you ordered separately. If there is any discrepancy or damaged during transportation, please contact our customer-service staff.

## **Installation Instructions** 3.1 Product Photo



### **3.2 Product Dismounting**



3-2

1	Aluminum alloy metal	7	Mother Board	13	Touchscreen Board
2	3M Seal Gel	8	Booster Plate	14	HDD
3	Touch Glass	9	Back Cover	15	HDD kit
4	Sponge	10	Heat Sink	16	DC Input connector
5	LCD	11	Thermal Block	17	Power On/Off & Power
6	LCD Kit	12	Wide Voltage Module		

### **3.3 Product Outline**

### DIAVH-PPC193100 (DIAVH-PPC195100)



# **Product Interface**

### 4.1 USB Interface

4\* USB2.0 Interface. Definition :

(Frieddam)	USB	Singal
5 5, c	1	+5V
	2	USB Data-
	3	USB Data+
USB1~4	4	GND

### **4.2 Network Interface**

2\* RJ45 LAN Interface. Definition :

	ACTLED LILED	MX0+(Pin#1) MX0-(Pin#2) MX1+(Pin#3) MX2+(Pin#4) MX2-(Pin#5) MX1-(Pin#6) MX3+(Pin#7) MX3-(Pin#8)	
ACTL	Network	LILED	Network
ED	Status	(Green/Orange)	Speed
(Green light)	Clatto	Green	1000Mbps
Twinkle	Data Transmission	Orange	100Mbps
Light off	No Data Transmission	Light off	10Mbps

### 4.3 Standard DB9 Comports

4\*Comports Interface. Definition :

	PIN	Sig	Inal	
		RS-232	RS-485	
a (1000 00)	1	DCD#	DATA-	
$\oplus(\underline{e}^{\bullet\bullet\bullet\bullet\bullet})\oplus$	2	RXD	DATA+	
COM1~4	3	TXD	Х	
	4	DTR#	Х	
	5	GND	GND	
	6	DSR#	Х	
	7	RTS#	Х	
	8	CTS#	Х	
	9	RI#	Х	

### 4.4 VGA Interface

15 PIN D Type VGA Interface. Definition :

	PIN	Signal	PIN	Signal
	1	Red	2	Green
$(\underline{\oplus},\underline{w},\underline{w},\underline{w},\underline{w},\underline{w},\underline{w},\underline{w},w$	3	Blue	4	N.C.
	5	GND	6	Detect
VGA	7	GND	8	GND
	9	+5V	10	GND
	11	NC	12	DDCDATA
	13	HSYNC	14	VSYNC

### 4.5 HDMI A Type Interface

	PIN	Signal	PIN	Signal
	1	DATA2+	2	DATA2 shielding
	3	DATA2-	4	DATA1+
19脚 1脚	5	DATA1 shielding	6	DATA1-
	7	DATA0+	8	DATA0 shielding
10,641 2,641	9	DATA0-	10	DATA1_CK+
HDMI	11	DATA1_CK shielding	12	DATA1_CK-
	13	CEC	14	Reserved
	15	SCL (DDC CLOCK)	16	SDA (DDC CLOCK)
	17	DCC/CEC GND	18	+5V
	19	RIUP check		

### **4.6 Power Interface**

DC+12V Power Input. Definition :

	PIN	Signal
	1	+12V
DC12V Input	2	GND

# Appendix

### 5.1 BIOS Setting

#### 5.1.1 Main Page

Press "Del" after startup and enter BIOS CMOS program. The first page as below and user can set date and time.

BIOS Information		Choose the system default
BIOS Vendor	American Megatrends	language
Core Version	4.6.5.4	
Compliancy	UEFI 2.3.1; PI 1.2	
Project Version	BP702 1.01 x64	
Build Date and Time	10/17/2014 10:55:30	
Processor Information		
Name	IvyBridge	
Brand String	Intel(R) Core(TM) 15-333	
Frequency	1800 MHz	
Processor ID	306a9	
Stepping	E1	
Number of Processors	2Core(s) / 4Thread(s)	+: Select Screen
Microcode Revision	17	11: Select Item
GT Info	GT2 (1100 MHz)	Enter: Select +/-: Change Opt.
IGFX VBIOS Version	2137	F1: General Help
Memory RC Version	1.8.0.0	F2: Previous Values
Total Memory	4096 MB (DDR3)	F3: Optimized Defaults
Memory Frequency	1333 Mhz	F4: Save & Exit
PCH Information		
Name	PantherPoint	
Stepping	04/C1	<b>v</b>

Picture 5-1

#### 5.1.2 Advanced Functions



Picture 5-2

- PCI Subsystem Settings ;
- ACPI Settings ;
- ♦ S5 RTC Wake Settings
- ♦ CPU Configuration ;
- SATA Configuration ;
- Thermal Configuration ;
- USB Configuration ;

- First Super IO Configuration ;
- Serial Port Console Redirection ;
- Network Stack ;
- Intel RC Drivers Version Detail ;
- CPU PPM Configuration •

#### **5.1.3 Chipset Function**

Enter 5-3.1 Picture and choose "System Agent" to Picture 5-3.2. Choose Graphics Configuration and enter Picture 5-3.3. Choose LCD Control and enter Picture 5-4.1



Picture 5-3.1

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.			Aptio Setup Utility	) - Copyright (C) 2012	American Megatrends, Inc.
Rystem Agent Bridge Name System Agent BC Version VF-1 Capability SH-2 Capability SH-2 Rystem SH-2 Ryst	TvyBridge 1.6.0.0 Supported Enviation () () () () () () () () () () () () () (	Denfig Druphics Settings. **: Select Screen 11: Select Item Tor Delet Tor Delet Tor Tolet Tor Tolet	Graphics Configuration INFX VAIDS Version INFX (FreeIncy Graphics Turbs Deer Devent Primary Usping Internal Graphics ETT Size Aperture Size DWT TrealLoated DWT Total GFA Mem Graphics Performance Analyzers Los Control	2137 350 MR: 31 (Mr01) (Mr02) (2268) (2268) (2268) (2268) (2268) (2268) (2268) (2168)(2268) (2168)(2268) (2168)(2268) (2168)(2268) (2168)(2268) (2168)(2268) (2168)(2268)(2268) (2168)(226	LCD Dentrol **: Select Screen 14: Select Trem Ets Select Trem Etror: Select *





In CD Panel Type item, users can modify PPC default resolution. If the setting resolution cannot match to actual solution in PPC, the display will be abnormal as Picture 5-4.2

LCD Control Advisory (CAT) Advisory (CAT) Control CDD Free Task Control CDD Free Task Control CDD Free Task Control CDD Free Task Control CDD Free CDD Free Control CDD Free CDD Free CD Free	Select the Video Device which mill be activated during POST- his has no reflect if external problems present selection mills be supported only on primery display why select the select on up or primery display why select the Enter: Select Aris Select The Enter: Select Aris Compa Det. F1: General Help F2: Previous Values F3: Optimized Defaults F3: Select Ext	LSD Central Prinary IGPS Bort Display Loo Frank Type SDM-EPF Pract Type Prinel Scaling BackLight Control Bill Spread Spectrum clock. Chip Tyl Standard Yk Standard Yk Standard Kettye LFF Panel Color Depth	1001) LCO frees the LCO cloved LCO clov	spiece LOD panel und by Internal Gambias Devices to scienting the appropriate setup Item. **: Select Screen 11: Select Item Enter: Select *-: Change Out. Fi: General Help F2: Previces Walast F3: Optimized Defaults F4: Seve Bolt ESC: Built
--	--	---	--	--

Picture 5-4.1



Restore AC Power Loss can choose [Power off] via pushing power button or plug/remove power directly. [Last Status] can set recovery last use status as abnormal shut down like Picture 5-5 showed.



Picture 5-5

#### 5.1.4 Boot Function

This function can setup Num Lock keyboard status as power-on and can set the storage sequence. Go to Hard Drive BBS Priorities function, choose the storage device in Boot Option #1, and press F4 to save.



Picture 5-6

Enter Hard Drive BBS Priorities Function list. Choose first storage device in Boot Option #1 as Picture 5-7 :



Picture 5-7

Finish Setting the storage device, press ESC back to last page and choose the device in Boot Option #1 again as Picture 5-8. Press F4 to save and press Enter to exit the page.

etup Prompt Timeout	1	Sets the system boot of der
ootup NumLock State	[Off]	
uiet Boot	[Enabled]	
SM16 Module Verison	07.64	
ateA20 Active	[Upon Request]	
ption ROM Messages	[Force BIOS]	
nterrupt 19 Capture	[Disabled]	
oot Option Priorities	Boot Option #1	
	SATA PM: ST320LT012-9WS14C	
oot Option #2	UEFI: Built-in EFI Shell	
	Disabled	: Select Screen
ard Drive BBS Priorities		: Select Item
		ter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Reset
		ESC: Exit
		the lite structure of the second structure of the

Picture 5-8

#### **5.1.5 Security Function**

This function can set BIOS setup Password and PPC Power-on Password as Picture 5-9.



Picture 5-9

#### 5.1.6 Save & Exit Function

Enter CMOS pages and choose "Save & Exit" to set up as Picture 5-10 show. Press F3 "Restore Default". Press F4 to "Save" setup.



Picture 5-10

### **5.2 Driver Installation**

#### 5.2.1 Chipset Driver Installation

- (1) Enter DVD content Driver\Chipset\ contents and click "Intel \_inf.exe".
- (2) Click "Next" and "Continue".
- (3) Click "Finish" and restart the computer to finish the installation.

#### 5.2.2 Onboard Display Card Installation

- (1) Enter DVD content Driver\ Graphic\ contents, choose the PPC OS folder and click "setup.exe".
- (2) Click "Next" and "Continue".
- (3) Click "Finish" and restart the computer to finish the installation.

#### 5.2.3 Onboard Sound Card Installation

- (1) Enter DVD content Driver\ Audio\ contents, choose the PPC OS folder and click "setup.exe".
- (2) Click "Next" and "Continue".
- (3) Click "Finish" and restart the computer to finish the installation.

#### 5.2.4 Onboard Network Card Installation

- (1) Enter DVD content Driver\ LAN\ contents, choose the PPC OS folder and click "setup.exe".
- (2) Click "Next" and "Continue".
- (3) Click "Finish" and restart the computer to finish the installation.

#### 5.2.5 Touchscreen driver Installation

- (1) Enter DVD content Driver\Touchscreem\ contents, choose eGalaxTouch or Touchkit folder and click "setup.exe".
- (2) Click "Next" and "Continue".
- (3) Click "Finish" and restart the computer to finish the installation.

### **5.3 Touch Correction**

### 5.3.1 Touch Monitor Correction

Enter Touch Control software – "eGalaxTouch USB Controller" which default install in the desktop. Click "General" and "Monitor mapping" to do the correction.

eGalaxTouch : US	B Controller				23
Edge Compens General	ation Setting	H	ardware Tools	Abou	t   ay
Installed Touch	screen Contro	llers			_
USB Controller					
				1	
Monitor Mapping			Add	Remove	
		ок	Car	ncel A	pply

Picture 5-11

#### 5.3.2 Setting

Set the Beep on Touch in "Setting". User can set open the Beep as touch or close the function. Define the points in Linearization Style. (Picture 5-12)

eGalaxTouch : U	SB Controller				×
Edge Compen	sation	Hard	ware	Abou	t
General	Setting		Tools	Displ	ay
Веер			Francisco		
🔽 Beep On Tou	ıch		Frequenc	У 📢	€
🔲 Beep On Rel	ease	_			
Reep From S	ystem Beep		Duration		
Beep From S	ound Card	_			
© 9 Points © 25 Points Double Click Tim Shorter<<	ie	_]		>>Longe	r
Double Click Are	Double Click Area				— I
Smaller<<				>>Bigger	
6	Normal Mod	e		Option	
	C	к	Cancel	A	pply

Picture 5-12

- Click once : Click the monitor once.
- Click Twice : Click the monitor twice.
- Right click : Touch the monitor 1 second.

#### 5.3.3 Tool

First, choose 4 points Calibration to match display and clear the linearization parameter and do 4 points alignment. Check 9 points linearization for better touch linearity. (Picture 5-13)

eGalaxTouch : USB Co	ontroller		X
Edge Compensation General	H Setting	ardware Tools	About Display
Linearization Curve			
4 Points Calibration	4 Points Calibration Do 4 points alignment to match display.		
Clear and Calibrate	Clear linearizati alignment.	on parameter a	and do 4 points
Linearization	Do 9 points line linearity.	earization for be	etter touchscreen
Draw Test Do draw test to verify		o verify the tou	ch accuracy.
OK Cancel Apply			

Picture 5-13

5.3.4 Display Monitor (Picture 5-14) and Edge Compensation (Picture 5-15)

GalaxTouch : USB Controller	SegalaxTouch : USB Controller	Х
Edge Compensation Hardware About	General Setting Tools Display	
General Setting Tools Display	Edge Compensation Hardware About	-i
Display	Edge Parameters Top 100 % Smaller<< >>Bigger	
-1	Smaller<	1
	Smaller<< Bottom 100 % >>Bigger	
Double click on the monitor area to map the touchscreen to the display monitor.	Smaller<<	
<ul> <li>Map to main display if system has only one display monitor.</li> </ul>	Smaller<< Offset X Axis U Pixel >>Bigger	1
Operation Mode	Smaller<< Offset Y Axis 0 Pixel >>Bigger	]
© Full Screen C Left Screen	Support Edge Compensation	1
C Upper Screen C Right Screen Other	- 10 % Default + 10 %	
OK Cancel Apply	OK Cancel Apply	ŗ
Picture 5-14	Picture 5-15	

## 5.4 Trouble Shooting

Common	Possible Reasons	Trouble shooting and solution		
	No power supply	Please check the power supply and the power cable/connector		
The device is not operating	Improper device operating environment	<ol> <li>Check the environment conditions</li> <li>Please wait for 12 hours before powering on the device shipped in cold day.</li> </ol>		
	The display has not been turned on	Turn on the display		
	Display output jump to another display output channel	Enter OS and use Ctrl+Alt+F1/F2/F3/F4 to change the display output within VGA/DVI/LVDS/HDMI.		
	The display is under "power saving" mode	Press any key on the keyboard.		
The external	The luminance control is set to "Black"	Increase the screen luminance by luminance control. Please refer to the instructions of the display for detailed information.		
display is diack		<ol> <li>Please check whether the power cable &amp; display cable is correctly connected with the display, the system unit or the ground port .</li> </ol>		
	Power cable or display cable is not connected	<ol> <li>Contact technique support if the screen remains black after implementing the above measures.</li> </ol>		
		<ol> <li>If the display still black, please contact the service support.</li> </ol>		
Incorrect time or date on PC	Incorrect BIOS setting	Follow the power-on prompt and press the key to enter the BIOS setup, adjust the time and date in BIOS setup.		
BIOS setting is correct while the time and date are not correct	Insufficient backup battery capacity	Replace the battery		
USB device has no response	USB port is disabled in BIOS	Use other USB ports or enable that port.		
	USB2.0 device is connected while USB 2.0 is disabled	Enable USB 2.0.		
	USB port is not supported by the operating system	<ol> <li>Enable USB Legacy Support for the mouse &amp; keyboard (legacy USB is supported);</li> </ol>		
		2. For other device, appropriate USB drivers are required.		
Boot device not found	In booting priority of the BIOS setting, the device is not the first priority or the device is not include in the booting device	Modify the booting priority of the device in the Boot menu of BIOS setting or include that device into the booting priority		
No system disk can be found when powering on	The HDD power cable or data cable is not connected well	Check whether the power cable and the data cable of the hard disk(the hard disk shall be installed with operating system and is bootable) are well connected		
	System files on the hard disk are damaged	Enter the system(usually WinPE system) with a bootable disk check whether the system in the hard disk is damaged. Reinstall the system if necessary.		
Plug and play I/O card, no I/O card is detected, or I/O card can be used when used again	Poor contact of the slot	Poor contact is usually caused by frequent installation/ uninstallation of the PCI or ISA card, unstable fixing or improper dust-proof measures; please remove and install the card for a few times or use another slot.		



### **Industrial Automation Headquarters**

Delta Electronics, Inc. Taoyuan Technology Center 18 Xinglong Road, Taoyuan District, Taoyuan City 33068, Taiwan (R.O.C.) TEL: 886-3-362-6301 / FAX: 886-3-371-6301

#### Asia

Delta Electronics (Jiangsu) Ltd. Wujiang Plant 3 1688 Jiangxing East Road, Wujiang Economic Development Zone Wujiang City, Jiang Su Province, P.R.C. 215200 TEL: 86-512-6340-3008 / FAX: 86-769-6340-7290

Delta Greentech (China) Co., Ltd. 238 Min-Xia Road, Pudong District, ShangHai, P.R.C. 201209 TEL: 86-21-58635678 / FAX: 86-21-58630003

Delta Electronics (Japan), Inc. Tokyo Office 2-1-14 Minato-ku Shibadaimon, Tokyo 105-0012, Japan TEL: 81-3-5733-1111 / FAX: 81-3-5733-1211

Delta Electronics (Korea), Inc. 1511, Byucksan Digital Valley 6-cha, Gasan-dong, Geumcheon-gu, Seoul, Korea, 153-704 TEL: 82-2-515-5303 / FAX: 82-2-515-5302

Delta Electronics Int'I (S) Pte Ltd. 4 Kaki Bukit Ave 1, #05-05, Singapore 417939 TEL: 65-6747-5155 / FAX: 65-6744-9228

Delta Electronics (India) Pvt. Ltd. Plot No 43 Sector 35, HSIIDC Gurgaon, PIN 122001, Haryana, India TEL : 91-124-4874900 / FAX : 91-124-4874945

### Americas

Delta Products Corporation (USA)

01332-000-São Paulo-SP-Brazil

Raleigh Office P.O. Box 12173,5101 Davis Drive, Research Triangle Park, NC 27709, U.S.A. TEL: 1-919-767-3800 / FAX: 1-919-767-8080

**Delta Greentech (Brasil) S.A.** Sao Paulo Office Rua Itapeva, 26 - 3° andar Edificio Itapeva One-Bela Vista

TEL: 55 11 3568-3855 / FAX: 55 11 3568-3865

Europe

Delta Electronics (Netherlands) B.V. Eindhoven Office De Witbogt 20, 5652 AG Eindhoven, The Netherlands TEL: +31 (0)40-8003800 / FAX: +31 (0)40-8003898

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