DLP Video Wall Solutions
for Control Centers

Next Gen LED-Lit Video walls
True Cube Redundancy
Superior Color Uniformity
Auto Color Calibration
Auto Geometry Alignment
Wireless Monitoring and Diagnostics

www.deltadisplays.com

DELTA
Smarter. Greener. Together.

SECOND TO SECOND,

Minute By Minute.

CONTROL ROOMS ARE THE NERVE CENTER OF ANY MAJOR OPERATION. WHETHER IT'S THE DISTRIBUTION OF ELECTRICITY, REFINING OF PETROCHEMICALS, SURVEILLANCE OF CITY STREETS OR MANAGING A MAJOR DISASTER, THE CONTROL ROOM HOLDS THE REINS OF THE OPERATION AND MUST HAVE A TIGHT GRIP ON IT AT ALL TIMES.

To do this effectively, the control room needs clear, precise & accurate information, which typically comes in from a variety of different sources: from CCTV cameras and instrument sensors to regional NOCs and substations. Control rooms simply cannot afford downtime. All this information needs to be continuously monitored, comprehended and acted upon.

Because of their ability to display a vast array of information simultaneously and present it collectively to a wide audience these large high – resolution displays (often known as video walls) are the backbone of any command and control center. They are vital tools for collaborative monitoring and decision making.

Largest OEM of Optical Engines in the World

Delta's extensive experience in DLP® technology is unsurpassed in the marketplace. No other company has more accumulated experience in DLP engine design and manufacturing than Delta.

Manufacturing Leadership

As a global multi-billion dollar company, Delta places innovation, quality and reliability at the heart of its culture. This focus and unrelenting drive to deliver the best have helped Delta achieve its leadership position in the control room video wall Display market.

Delta prides itself in producing its entire video wall system in-house based on its own design and manufacturing capabilities. This includes the projection engine, cube mechanics and controllers. Delta even manufactures its own color wheel and other optics including the lens.

This philosophy provides the company with full control over the quality and costs of the system. This is critical for long–term reliability and long–term support, the important factors to consider when choosing your control room display.

The unique combination of DLP expertise, inhouse design and manufacturing excellence, and unrelenting dedication to quality and reliability, ensures that you will receive state of- the-art performance, superior quality and exceptional levels of reliability for your Delta video wall solution.

Delivering You the Detail

DLP technology used in all Delta's video wall displays brings the ultimate visual experience to your control room. Delivering sharp, crisp video images and clear, easy-to-read text and graphics, DLP technology ensures that your control room operators always have the detail to perform at their best.

ΔELTA

# One Trillion Operations
Per Second.

Enabling Your Staff to
Make Critical Decisions

DLP Technology:
The Hands-Down Winner

The projection engines used in all Delta rear projection video walls are powered by DLP® technology. Generating extraordinary image quality with incredible color depth and contrast, DLP® technology brings video images to life and enables detailed data to be read with ease, extremely important factors in a control room environment. DLP® technology is also renowned for its robustness and longterm reliability.

At the heart of a DLP® projection system is the DMD chip which contains an array of up to 2 million hinge-mounted microscopic mirrors. Each mirror can switch on and off up to several thousand times a second, enabling it to reflect up to 1,024 shades of grey and create up to 35 trillion colors.

Boasting Dynamic high Contrast ratios, (1,500,000:1) DLP technology delivers crisp, sharp whites and deep dark blacks producing 3D-like images that almost pop out of the screen.
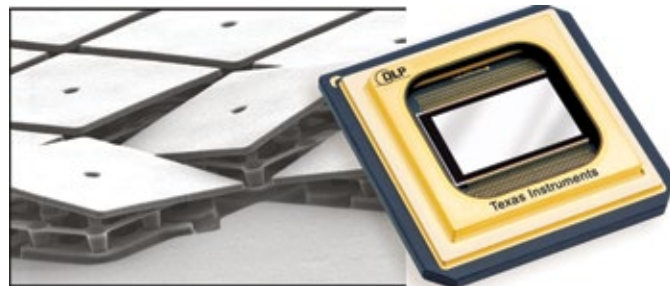
World-class
Image Processing

Whilst DLP technology plays a key role in the high image quality delivered by Delta's video walls, it is Delta's powerful image processing which truly sets it apart from its rivals.

Incorporating 10-bit HQV processing and SIMD (Simple Instruction Multiple Data) array with 3K processors, Delta's image processing unit delivers you the most advanced processing available on the market today. Working at a rate of 1 trillion operations per sec, the processor scales all incoming signals to the native resolution of the display and then enhances the image, removing any artifacts caused by the conversion and transmission of video.

The enhancement is performed with fourfield motion adaptive de-interlacing, multi cadence tracking, expanded 10-bit color processing and detail enhancement. The result transforms standard-definition sources to HD quality and makes HD look even

more detailed. Moreover, Delta's HQV image processing provides realtime clean up of highly compressed video, reducing compression artifacts of block and mosquito noise from lower-quality sources.

SISD

SIMD

■ Instructions
■ Data
┛ Results

◢ΔELTA
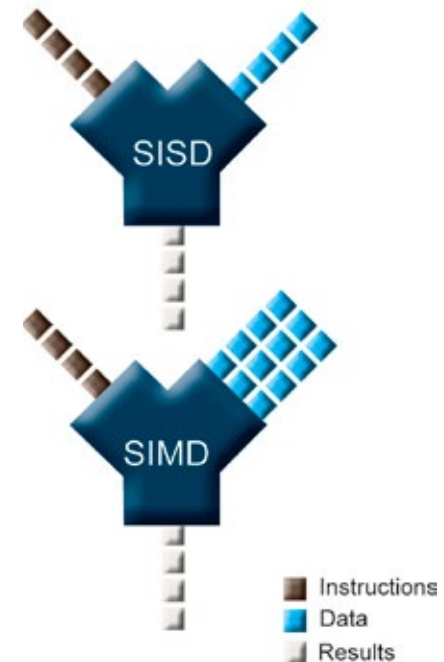
Over 40 Products To Choose From

Solutions For Every
Control Room Application

Delta offers an extensive product portfolio with over 40 "off-the-shelf" products to suit every application and installation scenario. Delta's cubes (as they are commonly known in the industry) are available in a range of resolutions including XGA (1024 x 768), SXGA+ (1400 x 1050), HD (1920x 1080) and WUXGA (1920x 1200).

Cubes are specially designed to be tiled together to form screens of extremely high resolutions.

Wider Color Gamut With
Next GEN LED Illumination

Delta video walls now come with Next GEN LED light source.

LED illumination offers you an array of performance enhancements – both in image quality and cost of ownership. By replacing the color wheel and UHP lamp with 3 x 6 fold high power solid state light emitting diodes (red, green and blue LEDs) you achieve a much wider color gamut resulting in a much richer visual experience. There is also a 25% increase in perceptional brightness as LEDs deliver much more saturated colors. With a brightness output of typ. 1100 lumens, Delta's LED-lit video walls are the brightest on the market. LEDs also enable you to control the brightness and contrast of your image more accurately.

With their extremely long lifetime (Eco mode 80,000hrs), LEDs do not need regular replacement, meaning you will have no consumables up to 6 years – even with a 24/7 operation & also possible to replace on-site whenever required. As LED is a flat light source (compared to a point light source of a lamp), they offer higher reliability. Even if one or two LEDs fail there is no loss of complete image & content is still displayed using balance LEDs. All this translates into lower maintenance and thus a lower total cost of ownership.

Innovative Lamp Design

Delta's lamp-lit video walls feature a unique dual lamp design in which both the lamps are mounted in a fixed position. This means that no mechanical motion is required during change-over, eliminating the risk of losing an image during a lamp switch. This offers the highest level of redundancy for mission critical applications, where loss of an image for more than a split second could spell disaster. Lamps can be replaced – post failure – without shutting down the system. The additional benefit of this design is that no periodic maintenance is required to maintain the switching mechanism in working condition resulting in lower operational and maintenance costs.

Both lamps can be used in either a "cold redundant" or "hot redundant" mode. When used simultaneously (hot redundant), a much brighter image can be obtained, which is useful in environments with high ambient light. It also provides the option to use suff icient ly degraded lamps simultaneously when a single lamp does not deliver an acceptable image. High power UHP (Ultra High Pressure) lamps are used in all Delta lamp-lit systems delivering an impressive brightness output level of up to 2200 ANSI lumens. The UHP lamps also boast a long lamp lifetime of up to 10,000 hours, making them ideal for 24/7 operations.

Front Access Saves you Space

Most Delta video walls are available with a front access option. A unique motorized screen lifting up from the front optimizes the use of space also make the installation in compact room possible.

Unique Color Sensor Design

To ensure the colors of individual cubes are perfectly matched a nd a perfectly uniform image is displayed across the entire display, Delta incorporates an auto color calibration system based on a unique color sensor design.

With sensors positioned on the light beam of the optical lens, the color calibration system encompasses the tolerances of all the optics in the system – including the lens and glass components. The system automatically adjusts the color temperature and brightness, ensuring control room operators view a perfectly uniform image across the entire screen at all times.

Advanced Screen Design

Selecting the right screen is critical to maintaining a good display over time. The standard screen used on all Delta cubes is the Cross Prism Screen FXS/XPS which offers unsurpassed contrast, wide viewing angles and superb centre-to-corner brightness uniformity. The advanced screen design incorporates a Fresnel lens and two crossed prism Lenticular lenses, ensuring maximum brightness and minimum glare. The screens feature a unique glass back to prevent bulging and are extremely tolerant of high ambient light, making them ideal for control room environments.

Other screen options that are available include Black Bead Screens and Ultra High Contrast screens. Custom screens can also be built to meet your specific

Pixel-Perfect Alignment

The projection engine is mounted inside the cube on a six-axis adjustment base. This base provides the ability to make precise geometric adjustments in six directions to obtain pixel-perfect alignment between individual cubes. Electronic adjustments can also be made afterwards for fine-tuning at a pixel level. This enables physical seams between screens of neighboring cubes to be adjusted to less than 0.2mm, delivering a near-seamless picture. For rear access cubes, the six-axis base is provided with a manual adjustment. In front access cubes, the adjustment is motorized.

Near-Seamless Displays

The projection engine resides inside a specially designed enclosure which also holds the display screen. These cubes – as they are known – are modular in nature allowing you to stack them both horizontally and vertically to form large displays of any size or form. Various sizes of cubes include 50", 67", 70" and 80" which can be customized into curved displays to meet your specific requirements. Sharp focus & no text over-lapping allows users to read even the corner text with ease.
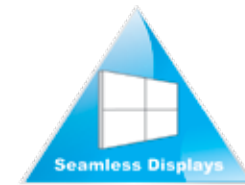
Monitoring, Diagnostics & Control

Delta's IP centric video wall are accessible over the IP through browser / server architecture based software tool for monitoring, control and diagnostic purpose. This software provides the operator with direct feedback on the status of the system with multiple levels of alarms. Whether it's the number of hours of a LED or their temperature, the operator will be automatically notified via the predefined alarms.

Monitoring

- Start/Stop Monitoring cubes
- LED status monitoring
- Alarms
  - Serious
  - Warning
  - Information

Diagnostics

- Message window
- Log file
- Error / Alarm feedback
  - Serious
  - Warning
  - Information

Control

- Switch on/off
- Virtual Remote Control (VRC)
- Get/Set cube data
- Save/Load options
- Scheduling options
  - Daily
  - Periodically
  - Sequentially

Properties

Common	DLP	Video	RGB	CCA	PIP1	PIP2	6-AXIS	
DLP	Video	RGB	CCA	PIP1	PIP2	6-AXIS		

OE 1 172.16.0.1	☑ Contrast	128	☐ Projector Num	128	☑ Contrast
OE 2 172.16.0.2	☐ Brightness	128	☑ Test Pattern	128	☐ Brightness
OE 3 172.16.0.3	☐ Image Orientaion	0	☐ Freeze	0	☐ Image Orientaion
OE 4 172.16.0.4	☐ AI Tiling Num	0	☐ Main Input Select	0	☐ AI Tiling
	☐ Language	English	☐ White Peakin	Yes	☐ Language
	☐ DVI EQ Setting	Yes			☐ DVI EQ Setting

Scheduler

Periodically Schedu
- OE 1 172.16.26.0
- OE 2 172.16.26.0
- OE 3 172.16.26.0
- OE 4 172.16.26.0

Daily ▼   Run daily mode will execute the schedule every day at a fixed time.

- Language : English
- Function Type : LEG
- Lamp Timeout Cha
- Color Temp : 9300K
- Image Orientation :

Schedule Name:

| Schedule Name | 0 ▼ Hour(s) | 0 ▼ Minute(s) | **Add List** |

Schedule List

▶	Periodically	Schedule Name 2	every 3 Second(s)	00:00:02	⏸ Pause	🔲 Detail
	Sequentially	Schedule Name	every 7 Second(s)	-----	⏺ Start	🔲 Detail
	Dialy	Schedule Name	daily at 00:00	-----	⏺ Start	🔲 Detail

Display Management

Icon Pro Series Controller

The Delta Icon Pro Series Controller is a multiscreen graphics controller running on the Windows® Platform. The Icon Pro Series controller drives multiple cubes to form one large logical screen called a video wall or a data wall. The video wall displays graphics information from the controller workstation as well as information from various sources connected to the controller.

Key Features

• Raid 0,1, 5 and 10 support

• KVM over LAN, serial over LAN, LAN alert

• Redundant and hot swappable components

• Remote management for hardware functions

• Xeon Quad Core with multiple processor support

• Displays resolutions up to 1920 x 1200 per channel

• Switch fabric chassis for high demanding applications

• CPU, fan, temperature and chassis intrusion detection and alarm

• SNMP trap, event log, remote power control, command line interface

• Runs on all standard Windows® operating systems and with Linux® Emulation

• Input capability (DVI -D, RGBHV, HD video, display over LAN, VNC, IP stream decoding)

• Supports decoding of multiple camera types, multiple formats, custom formats and resolutions from QCIF, D1 to HD

Control System
You're in Control

Distributive Vision Control System

Delta's Distributive Vision Control System (DVCS) is one of the world's most advanced control systems designed specifically for control room visual display systems. Combining the latest advances in Digital Signal Processing (DSP) technology and with recent improvements in video compression rates, the Delta DVCS enables customers to capture, distribute, control and display high-resolution graphics/HD video signals over an IP network-reliably and cost effectively.

Key Features

- Hot-swappable

- Compact and silent

- Low power consumption

- Real-time monitoring of all windows

- Remote display wall control through network

- Supports Hi-Fi audio transmission over the network

- Supports up to 64 input signal sources in one display

- Supports 10 RGB/Video signal preview simultaneously

- Supports remote processor firmware upgrade over the network

- DVCS server can communicate with more than 10000 processors

- Supports multiple operators controlling a large scale display wall simultaneously

- Supports multicasting. One input signal can be displayed on an unlimited number of displays

You Won't Lose That Image–
Even For A Second!

PRODUCT SPECIFICATIONS

LAMP-ILLUMINATED VIDEO WALL CUBES		
Resolution	**XGA**	**SXGA+**
Description	Dual lamp XGA cube	Dual lamp SXGA+ cube
Individual Cube Sizes	50", 67", 80" diagonal	50", 67", 80" diagonal
Image Size (mm)	1016 x 762 / 1361 x 1021 / 1600 x 1200	1016 x 762 / 1361 x 1021 / 1600 x 1200
Display Technology	DLP, single chip	DLP, single chip
Native Resolution	1024 x 768 pixels	1400 x 1050 pixels
Aspect Ratio	4:3	4:3
Screen to Screen Gap	Rear access: adjustable <0.1mm Front access: adjustable <0.7mm	Rear access: adjustable <0.1mm Front access: adjustable <0.7mm
DMD	0.7" DMD 12 deg.	0.95" DMD 12 deg.
Light Source	Dual UHP lamps	Dual UHP lamps
Brightness	650-1300 ANSI based on lamp mode & single/dual lamp usage	650-1300 ANSI based on lamp mode & single/dual lamp usage
Luminance (Nits or cd/m^2)	Varies with the screen Type and lamp mode	Varies with the screen Type and lamp mode
Brightness Uniformity	>96%	>96%
Contrast Ratio	Typ. 1500:1	Typ. 1800:1
Screen Options	FXS / BB / XPS	FXS / BB / XPS
Full Viewing Angle	180 degrees	180 degrees

LAMP-ILLUMINATED VIDEO WALL CUBES		
Resolution	**XGA**	**SXGA+**
Colors	16.7 million	16.7 million
Color Temperature Range	3200K to 9300K, custom	3200K to 9300K, custom
Lamp Life	Eco mode : 8,000 hours Typ. mode : 6,000 hours	Eco mode : 10,000 hours Typ. mode : 6,000 hours
Inputs	1x Analog D-sub 15pin 1x Digital DVI-I 1x Digital DVI-D 1x CVBS BNC 1x Component Video BNC 1x 5BNC (RGBHV or YPbPr)	1x Analog D-sub 15pin 1x Digital DVI-I 1x Digital DVI-D 1x CVBS BNC 1x Component Video BNC 1x 5BNC (RGBHV or YPbPr)
Outputs	1x Digital DVI-D 1x CVBS BNC	1x Digital DVI-D 1x CVBS BNC
Control Options	RS-232/RS-422, IR	RS-232/RS-422, IR
LED Indicator	Separate diagnostic LEDs for power, fan, light source	Separate diagnostic LEDs for power, fan, light source
Input Voltage	AC 90-240V @ 50/60 Hz	AC 90-240V @ 50/60 Hz
Power Consumption	Single lamp <200W Dual lamp <360W	Single lamp <200W Dual lamp <340W
Operating Temperature	5°C - 40°C (41° F - 104° F)	5°C - 40°C (41° F - 104° F)
Non Operating Temperature	-20°C - 60°C (-4° F - 140° F)	-20°C - 60°C (-4° F - 140° F)
Operating / Storage Humidity	10% - 90%, non-condensing	10% - 90%, non-condensing

LAMP-ILLUMINATED VIDEO WALL CUBES		
	XGA	**SXGA+**
50" Rear access	DVS-5056/DVS-5057R7	DVS-5078R7
50" Front access	DVS-5056/DVS-5057F7	DVS-5078F7
67" Rear access	DVS-6756/DVS-6757R7	DVS-6778R7
67" Front access	DVS-6756/DVS-6757F7	DVS-6778F7
80" Rear access	DVS-8056/DVS-8057R7	DVS-8078R7

PRODUCT SPECIFICATIONS

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES

Resolution	XGA / SXGA +
Description	LED-based XGA / SXGA+ cubes
Individual Cube Sizes	50", 67", 80" diagonal
Image Size (mm)	1016 x 762 / 1361 x 1021 / 1600 x 1200
Display Technology	DLP, single chip
Native Resolution	1024 x 768 / 1400 x 1050 pixels
Aspect Ratio	4:3
Screen to Screen Gap	Rear access: adjustable <0.1 mm Front access: adjustable <0.7 mm
DMD	0.7" / 0.95" DMD 12 deg.
Light Source	3 x 6 LEDs
Brightness	Typ. 850 / 1100 lumens
Luminance (Nits or cd/m²)	Varies with the screen type and lamp mode
Brightness Uniformity	>96%
Contrast Ratio	Typ. 1800:1
Screen Options	FXS / XPS / High Gain
Full Viewing Angle	180 degrees
Colors	16.7 million
Color Temperature Range	3200K to 9300K, custom
Standard Inputs	1x Digital DVI-I 1x Digital HDMI 1x Analog D-sub 15pin 1x Analog 5BNC (RGBHV or YPbPr)
Standard Outputs	1x Digital DVI-D

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES

Resolution	XGA / SXGA +
Optional Board- I*	Inputs:1x Digital DVI-D 1x HDMI 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video
Optional Board- II*	Inputs :1x Digital DVI-D 1x 3G-SDI 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video Output : 1 x 3G-SDI
Optional Board- III*	Inputs:1x Digital DVI-D 1x HD-baseT 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video
Control Options	RS-232 / RS-422, IP, IR
Lamp Life	Eco mode : 100,000 hours Typ. mode: 60,000 hours
Color Stability	Self Calibrating with color sensor
Input Voltage	AC 90~240V@50/60 Hz
Optional Power Supply	Dual power supply module
Power Consumption	Max : <270W Typ. : <225W Eco : <150W
Operating Temperature	5°C - 40°C (41° F - 104° F)
Non Operating Temperature	-20°C - 60°C (-4° F - 140° F)
Operating / Storage Humidity	10% - 90%, non-condensing

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES

	XGA	SXGA+
50" Rear access	DVS-5050R9IA/ DVS-5050R9CA	DVS-5070R9IA/ DVS-5070R9CA
50" Front access	DVS-5050F9IA/ DVS-5050F9CA	DVS-5070F9IA/ DVS-5070F9CA
67" Rear access	DVS-6750R9IA/ DVS-6750R9CA	DVS-6770R9IA/ DVS-6770R9CA
67" Front access	DVS-6750F9IA/ DVS-6750F9CA	DVS-6770F9IA/ DVS-6770F9CA
80" Rear access	DVS-8050R9IA/ DVS-8050R9CA	DVS-8070R9IA/ DVS-8070R9CA

Note: *Only one of the optional boards can be used with standard input / output board.

PRODUCT SPECIFICATIONS

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES	
Resolution	**Full HD**
Description	LED-based Full HD cubes
Individual Cube Sizes	50", 70" diagonal
Image Size (mm)	1107 x 623 / 1550 x 872
Display Technology	DLP, single chip
Native Resolution	1920 x 1080 pixels
Aspect Ratio	16:9
Screen to Screen Gap	Rear access: adjustable <0.1 mm Front access: adjustable <0.7 mm
DMD	0.95" DMD 12 deg.
Light Source	3 x 6 LEDs
Brightness	Typ. 1100 lumens
Luminance (Nits or cd/m^2)	Varies with the screen type and lamp mode
Brightness Uniformity	>96%
Contrast Ratio	Typ. 1800:1
Screen Options	FXS / XPS / High Gain
Full Viewing Angle	180 degrees
Colors	16.7 million
Color Temperature Range	3200K to 9300K, custom
Standard Inputs	1x Digital DVI-I 1x Digital HDMI 1x Analog D-sub 15pin 1x Analog 5BNC (RGBHV or YPbPr)
Standard Outputs	1x Digital DVI-D

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES	
Resolution	**Full HD**
Optional Board- I*	Inputs:1x Digital DVI-D 1x HDMI 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video
Optional Board- II*	Inputs :1x Digital DVI-D 1x 3G-SDI 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video Output : 1 x 3G-SDI
Optional Board- III*	Inputs:1x Digital DVI-D 1x HD-baseT 1x Display port 1x Analog 5BNC (RGBHV or YPbPr) 1 X Analog S-video
Control Options	RS-232 / RS-422, IP, IR
Lamp Life	Eco mode : 100,000 hours Typ. mode: 60,000 hours
Color Stability	Self Calibrating with color sensor
Input Voltage	AC 90~240V@50/60 Hz
Optional Power Supply	Dual power supply module
Power Consumption	Max : <270W Typ. : <225W Eco : <150W
Operating Temperature	5°C - 40°C (41° F - 104° F)
Non Operating Temperature	-20°C - 60°C (-4° F - 140° F)
Operating / Storage Humidity	10% - 90%, non-condensing

NEXT GEN LED-ILLUMINATED VIDEO WALL CUBES	
	Full HD
50" Rear access	DVS-5080R9IA/ DVS-5080R9CA
50" Front access	DVS-5080F9IA/ DVS-5080F9CA
70" Rear access	DVS-7080R9IA/ DVS-7080R9CA
70" Front access	DVS-7080F9IA/ DVS-7080F9CA

Note: *Only one of the optional boards can be used with standard input / output board.

GLOBAL OFFICES

Website   **www.deltadisplays.com**
Contact Us   **vw.sales@deltadisplays.com**

Europe

NETHERLANDS
Delta Electronics Europe
Zandsteen 15,2132 MZ
Hoofddorp,
The Netherlands

SLOVAKIA
Delta Electronics (Slovakia) s.r.o.
Priemyselna ulica 4600/1
018 41 Dubnica nad Vahom
Slovakia

FRANCE
Delta Electronics (France) S.A.
ZI du bois Chaland
2 15 rue des Pyrenees,
Lisses 91056 Evry Cedex

Americas

USA/PORTLAND
Delta Products Corporation
Portland Office
1600 NW Compton Drive,
Suite 100, Hillsboro, OR 97006

USA/FREMONT
Delta Products Corporation
Fremont Office
4405 Cushing Parkway,
Fremont, CA 94538, U.S.A

BRAZIL
Delta Greentech (Brasil) S/A
Rua Almirante Alexandrino,
3100 - Afonso Pena
83045-210 - São Jose dos
Pinhais- PR - Brasil

Asia

TAIWAN
Delta Electronics, Inc.
186 Ruey Kuang Road,
Neihu,Taipei 11491, Taiwan

THAILAND
Delta Electronics (Thailand) PCL
909 Soi 9 Moo 4, E.P.Z.Bangpoo
Industrial Estate, Tambon Prakasa,
Amphur Muang Samutprakarn,
Samutprakarn 10280, Thailand

KOREA
Delta Electronics (Korea) Inc
1511, Byucksan Digital Valley
6-cha, Gasan-dong,
Geumcheon-gu,
Seoul, Korea 153-704

INDIA
Delta India Electronics Pvt. Ltd
Plot No 43 Sector 35, HSIIDC
Gurgaon 122001, Haryana, India

SINGAPORE
Delta Electronics Int'l (S) Pte. Ltd.
4 Kaki Bukit Ave 1, #05-05
Singapore 417939

CHINA
Delta Electronics (Shanghai) Co., Ltd.
No.182 Minyu Road,
Pudong Shanghai, P.R.C.
Post Code: 201209

QR Code

ΔELTA
Smarter. Greener. Together.

Ver: 03. 2014