

Digitized Automation for a Changing World

Delta Multifunction Pressure Sensor DPA Series



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 **DELTA**
Smarter. Greener. Together.

Multifunction Pressure Sensor DPA Series

- ▶ Energy-saving mode
- ▶ Various unit conversion
- ▶ Analog output function
- ▶ Various output modes
- ▶ 3-color display
- ▶ Fast zero reset
- ▶ Safety control function
- ▶ Easy code display
- ▶ 10 sets of output response time setup
- ▶ Parameter copy function
- ▶ RS-485 communication

Various Unit Conversion

The DPA Series offers 6 kinds of globally adopted pressure units for measurement and display.



Fast Parameter Copy

The DPA Series allows fast internal parameters duplication from the master to slaves and saves time for configuring the same parameters on multiple slaves.



3-Color LCD Display (Green, Red, Orange)

The large LCD with a green, red and orange 3-color LCD display allows users to set up the display colors for different ambient environments, such as pressures within normal ranges or larger than the allowed ranges. The text display color in the parameter setup mode is orange. 3-Color display enables easy reading and reduces operation errors.



Display color for upper / lower limit (green / red)



Parameter Setup (orange)

Safety Control Mode

The safety control mode prevents operators from accidental setting to relevant parameters that may affect the equipment operation and production.



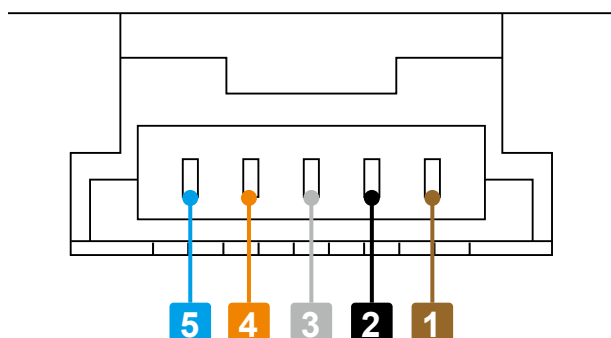
Real-time Collecting Pressure Data via RS-485



Specifications

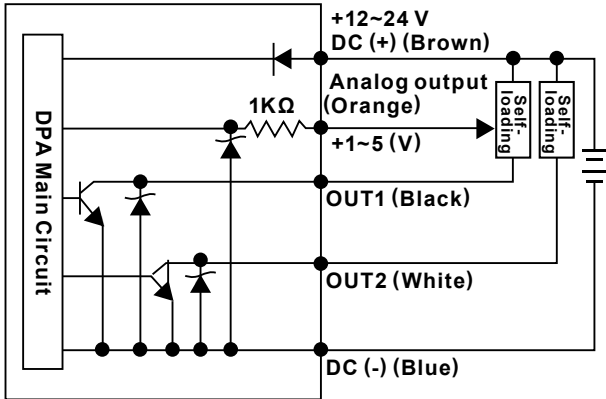
Power Supply	Voltage range	12~24 V _{DC} ±10% no isolation
	Power consumption	40mA Max.; current output type 60mA Max.
Communication	For communication model	RS-485
Pressure Measurement	Pressure type	Non-corrosive gas, gauge type
	Measurable range	DPA01: -100 kPa ~ 100 kPa
		DPA10: -100 kPa ~ 1,000 kPa
	Max. durable pressure	DPA01: 200 kPa
		DPA10: 1,100 kPa
Measurement accuracy	±3% entire process	
Temperature inaccuracy	± 2% entire process	
Display	Setup	2-line LCD display, 4 digits for measured value and 3.5 digits for setup display
	Status	LCD output status display
	Display mode	3 colors for different modes
	Cycle	250 ms, 500 ms, 1,000 ms
	Pressure units	DPA01 (low pressure type): kPa, kgf/cm ² , bar, psi, mmHg, inchHg DPA10 (high pressure type): MPa, kgf/cm ² , bar, psi, cmHg, inchHg Data Display: Displays the first digit after the decimal point
Output	Number of outputs	Built-in 2 NPN or PNP transistor digital outputs and 1 analog output
	Transistor output	NPN: Max. durable pressure 30V / 100 mA, residual voltage 1.5V
	Analog output	1~5V: Min. output load resistance 1,000Ω
		4~20mA: Max. output load resistance 400Ω; linear inaccuracy < 2% entire process
	Response time	2 ms, 4 ms, 10 ms, 30 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1,000 ms, 5,000 ms
Output inaccuracy	Linear inaccuracy: < ± 2% entire process	
Shock Resistance	10~550 Hz, 100 mm, 3 axes for 2 hours	
Vibration Resistance	Max. 100 m/s ² , 3 axes 6 directions, 3 times each	
Operating Ambient Temperature	0~50 °C	
Storage Temperature	-20~65 °C	
Altitude	< 2,000 m	
Operating Relative Humidity	35~80% RH (non-condensing)	

Terminals

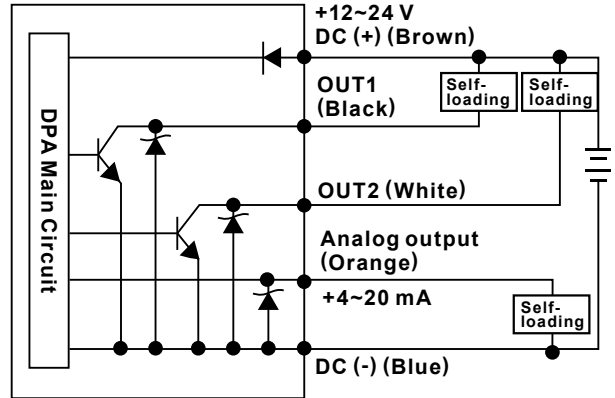


No.	General Model	RS-485 Model
1	Positive power supply input (Brown)	
2	Digital output 1 signal (Black)	
3	Digital output 2 signal (White)	RS-485+ (White)
4	Analog output signal (Orange)	RS-485- (Orange)
5	Negative power supply input (Blue)	

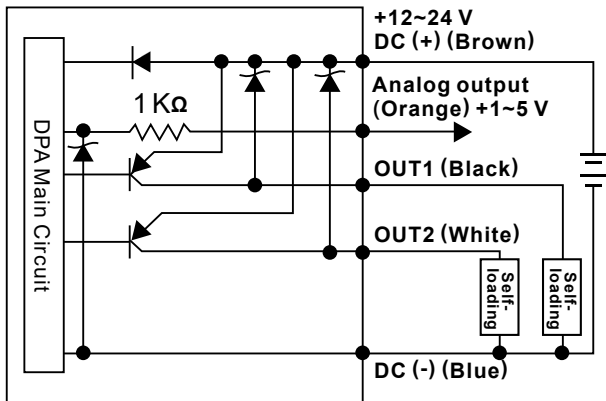
Various Output Control Modes



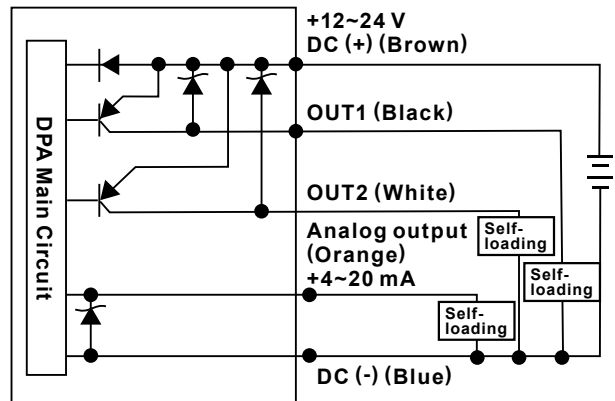
NPN +1 ~ 5V Output



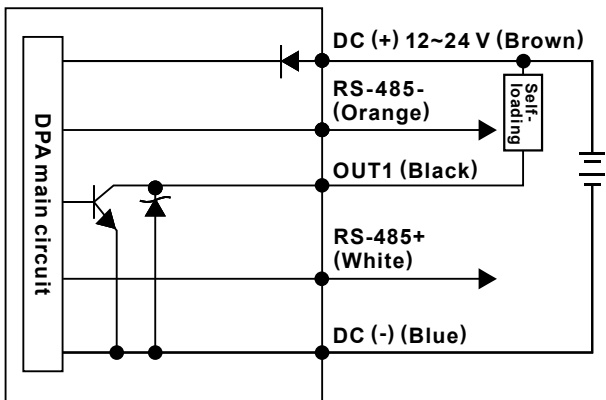
NPN +4 ~ 20mA Output



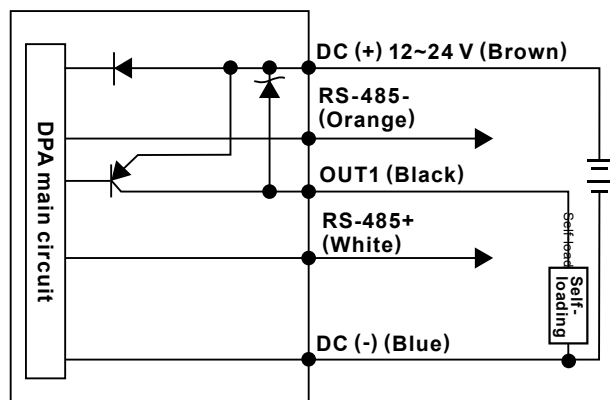
PNP +1 ~ 5V Output



PNP +4 ~ 20mA Output



NPN RS-485 Output



PNP RS-485 Output

Model Information

DPA 01 N R - P

Product Name

DPA Series pressure sensor

Range for Pressure Measurement

01: -100 kPa ~ 100 kPa
10: -100 kPa ~ 1,000 kPa

Output Types

N: NPN output + 4 ~ 20 mA P: PNP output + 4 ~ 20 mA
M: NPN output + 1 ~ 5 V Q: PNP output + 1 ~ 5 V

Pressure Pore Output Types

P: Outer pore 1/8PT, inner pore M5
N: Outer pore 1/8NPT, inner pore M5
G: Outer pore 1/8G, inner pore M5

Communication Type

R: RS-485
(for models with communication function only)

RS-485 Model Specifications	
DPA01NR-P	-100 ~ 100 kPa NPN requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA01PR-P	-100 ~ 100 kPa PNP requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA10NR-P	-100 ~ 1000 kPa NPN requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA10PR-P	-100 ~ 1000 kPa PNP requires 1/8PT for the external hole (s) and M5 for the internal hole (s)

Model	DPA / DPB Accessories
DPA-PFKIT	Panel Installation
DPA-FMKIT	Bracket
DPA-FPCKIT	Transparent Protective Cover

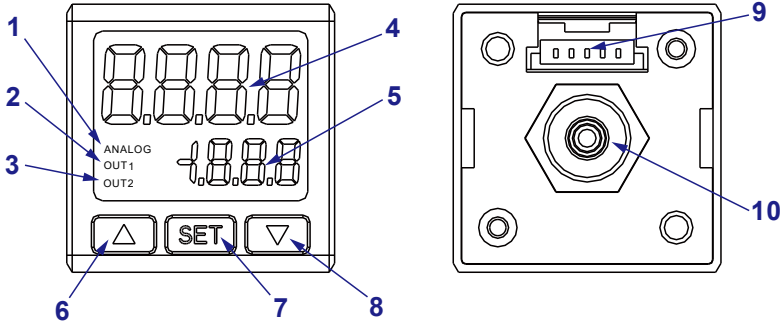
-100 ~ 100 kPa NPN Series Specifications	
DPA01M-G	-100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01M-N	-100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA01M-P	-100 ~ 100 kPa NPN outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA01N-G	-100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01N-N	-100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA01N-P	-100 ~ 100 kPa NPN outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)

-100 ~ 100 kPa PNP Series Specifications	
DPA01Q-G	-100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01Q-N	-100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA01Q-P	-100 ~ 100 kPa PNP outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA01P-G	-100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA01P-N	-100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA01P-P	-100 ~ 100 kPa PNP outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)

-100 ~ 1000 kPa NPN Series Specifications	
DPA10M-G	-100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10M-N	-100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA10M-P	-100 ~ 1000 kPa NPN outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA10N-G	-100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10N-N	-100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA10N-P	-100 ~ 1000 kPa NPN outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)

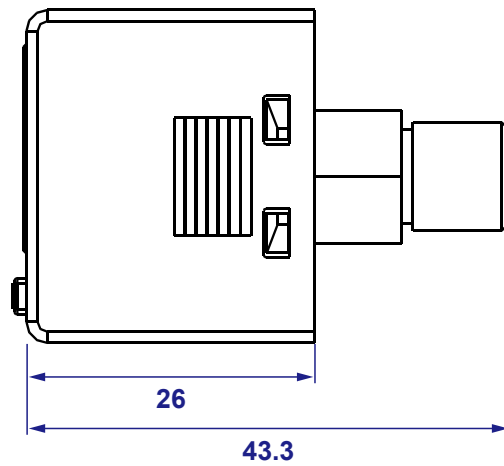
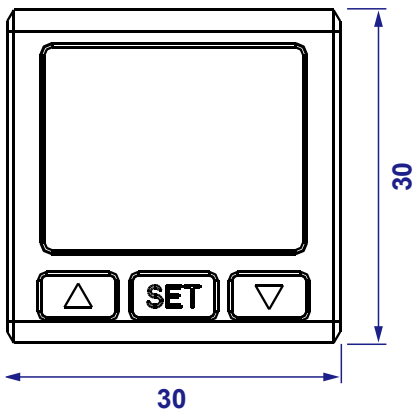
-100 ~ 1000 kPa PNP Series Specifications	
DPA10Q-G	-100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10Q-N	-100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA10Q-P	-100 ~ 1000 kPa PNP outputs 1 ~ 5V; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)
DPA10P-G	-100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8 for the external hole (s) and M5 for the internal hole (s)
DPA10P-N	-100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8NPT for the external hole (s) and M5 for the internal hole (s)
DPA10P-P	-100 ~ 1000 kPa PNP outputs 4 ~ 20 mA; requires 1/8PT for the external hole (s) and M5 for the internal hole (s)

Product Profile & Outline



- 1 Analog output indicator
- 2 Digital output 1 indicator
- 3 Digital output 2 indicator
- 4 Pressure / parameter display
- 5 SV / setup item display
- 6 Up key
- 7 Set key
- 8 Down key
- 9 Power supply and output terminals
- 10 Pressure input pore

Dimensions

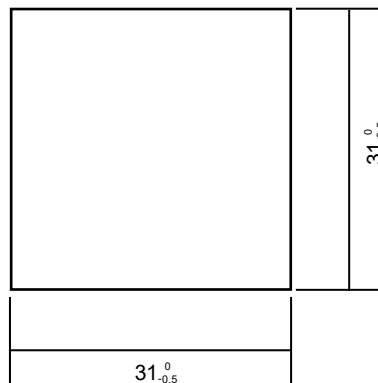
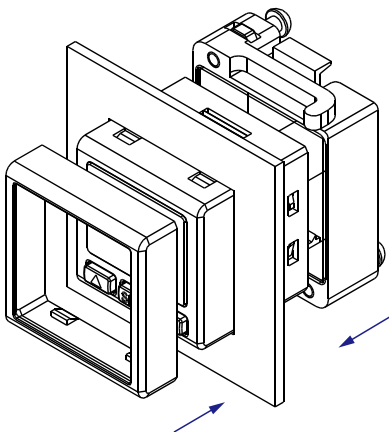


Unit: mm

Panel Accessory

Model: DPA-PFKit

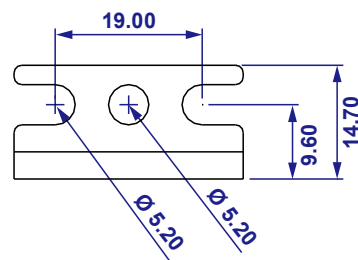
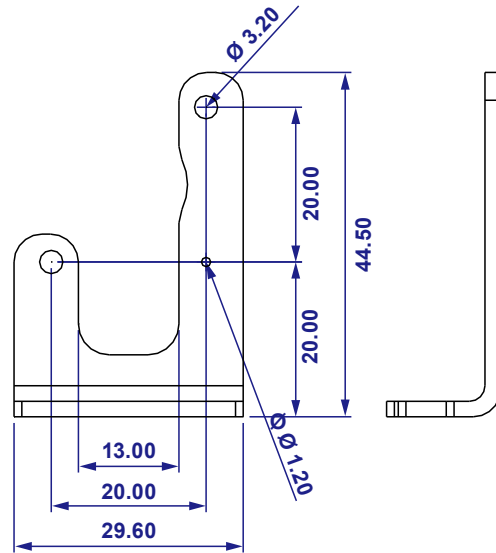
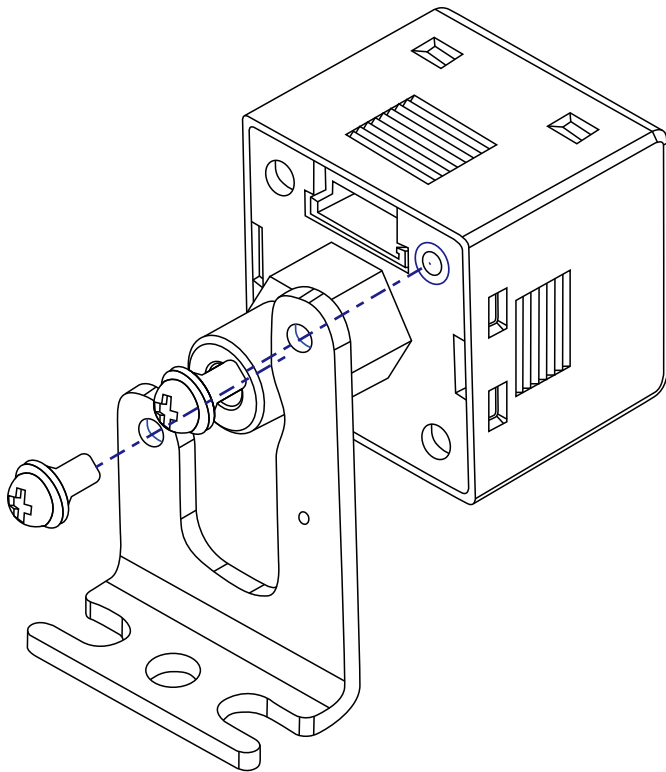
Unit: mm



Shelf Accessory

Model: DPA-FMKit

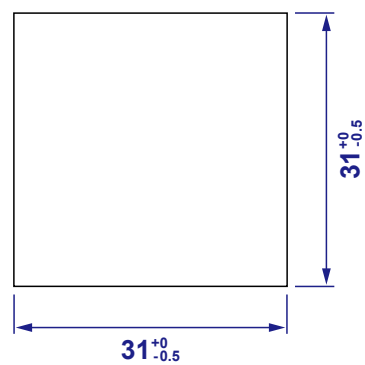
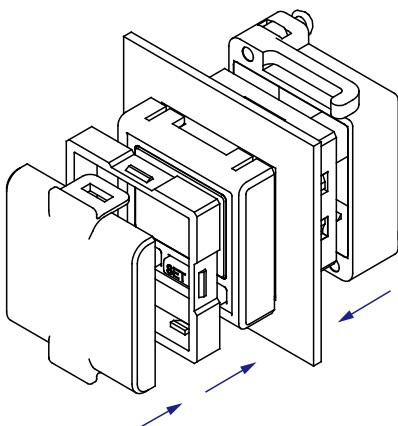
Unit: mm



Transparent Protective Cover

Model: DPA-FPCKIT

Unit: mm





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Industrial Automation Headquarters

Taiwan: Delta Electronics, Inc.

Taoyuan Technology Center
No.18, Xinglong Rd., Taoyuan District,
Taoyuan City 33068, Taiwan
TEL: +886-3-362-6301 / FAX: +886-3-371-6301

Asia

China: Delta Electronics (Shanghai) Co., Ltd.

No.182 Minyu Rd., Pudong Shanghai, P.R.C.
Post code : 201209
TEL: +86-21-6872-3988 / FAX: +86-21-6872-3996
Customer Service: 400-820-9595

Japan: Delta Electronics (Japan), Inc.

Industrial Automation Sales Department
2-1-14 Shibadaimon, Minato-ku
Tokyo, Japan 105-0012
TEL: +81-3-5733-1155 / FAX: +81-3-5733-1255

Korea: Delta Electronics (Korea), Inc.

1511, 219, Gasan Digital 1-Ro., Geumcheon-gu,
Seoul, 08501 South Korea
TEL: +82-2-515-5305 / FAX: +82-2-515-5302

Singapore: Delta Energy Systems (Singapore) Pte Ltd.

4 Kaki Bukit Avenue 1, #05-04, Singapore 417939
TEL: +65-6747-5155 / FAX: +65-6744-9228

India: Delta Electronics (India) Pvt. Ltd.

Plot No.43, Sector 35, HSIIDC Gurgaon,
PIN 122001, Haryana, India
TEL: +91-124-4874900 / FAX: +91-124-4874945

Thailand: Delta Electronics (Thailand) PCL.

909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z),
Pattana 1 Rd., T.Phraksa, A.Muang,
Samutprakarn 10280, Thailand
TEL: +66-2709-2800 / FAX: +66-2709-2827

Australia: Delta Electronics (Australia) Pty Ltd.

Unit 20-21/45 Normanby Rd., Notting Hill Vic 3168, Australia
TEL: +61-3-9543-3720

Americas

USA: Delta Electronics (Americas) Ltd.

5101 Davis Drive, Research Triangle Park, NC 27709, U.S.A.
TEL: +1-919-767-3813 / FAX: +1-919-767-3969

Brazil: Delta Electronics Brazil

Rua Itapeva, 26 - 3º, andar Edifício Itapeva,
One - Bela Vista 01332-000 - São Paulo - SP - Brazil
TEL: +55-12-3932-2300 / FAX: +55-12-3932-237

Mexico: Delta Electronics International Mexico S.A. de C.V.

Gustavo Baz No. 309 Edificio E PB 103
Colonia La Loma, CP 54060
Tlalnepantla, Estado de México
TEL: +52-55-3603-9200

EMEA

EMEA Headquarters: Delta Electronics (Netherlands) B.V.

Sales: Sales.IA.EMEA@deltaww.com
Marketing: Marketing.IA.EMEA@deltaww.com
Technical Support: iatechnicalsupport@deltaww.com
Customer Support: Customer-Support@deltaww.com
Service: Service.IA.emea@deltaww.com
TEL: +31(0)40 800 3900

BENELUX: Delta Electronics (Netherlands) B.V.

Automotive Campus 260, 5708 JZ Helmond, The Netherlands
Mail: Sales.IA.Benelux@deltaww.com
TEL: +31(0)40 800 3900

DACH: Delta Electronics (Netherlands) B.V.

Coesterweg 45, D-59494 Soest, Germany
Mail: Sales.IA.DACH@deltaww.com
TEL: +49(0)2921 987 0

France: Delta Electronics (France) S.A.

ZI du bois Challand 2, 15 rue des Pyrénées,
Lisses, 91090 Evry Cedex, France
Mail: Sales.IA.FR@deltaww.com
TEL: +33(0)1 69 77 82 60

Iberia: Delta Electronics Solutions (Spain) S.L.U

Ctra. De Villaverde a Vallecas, 265 1º Dcha Ed.
Hormigueras – P.I. de Vallecas 28031 Madrid
TEL: +34(0)91 223 74 20

Carrer Llacuna 166, 08018 Barcelona, Spain

Mail: Sales.IA.Iberia@deltaww.com

Italy: Delta Electronics (Italy) S.r.l.

Via Meda 2–22060 Novedrate(CO)
Piazza Grazioli 18 00186 Roma Italy
Mail: Sales.IA.Italy@deltaww.com
TEL: +39 039 8900365

Russia: Delta Energy System LLC

Vereyskaya Plaza II, office 112 Vereyskaya str.
17 121357 Moscow Russia
Mail: Sales.IA.RU@deltaww.com
TEL: +7 495 644 3240

Turkey: Delta Greentech Elektronik San. Ltd. Sti. (Turkey)

Şerifali Mah. Hendem Cad. Kule Sok. No:16-A
34775 Ümraniye – İstanbul
Mail: Sales.IA.Turkey@deltaww.com
TEL: + 90 216 499 9910

MEA: Eltek Dubai (Eltek MEA DMCC)

OFFICE 2504, 25th Floor, Saba Tower 1,
Jumeirah Lakes Towers, Dubai, UAE
Mail: Sales.IA.MEA@deltaww.com
TEL: +971(0)4 2690148