



Powering the connected world

Power solutions for telecom
Catalogue 2019

Europe, Middle East and Africa

www.deltaww.com



DELTA
Smarter. Greener. Together.



Welcome to the all-connected future4

Complete telecom infrastructure solutions6

Designed and produced in Europe8

Powerful rectifiers10

Compact power systems14

Additional components20

Indoor systems22

Outdoor systems26

Outdoor small cells 30

Batteries32

Hybrid solutions - saving energy and the environment ... 34

Renewable hybrid energy solutions 36

Solar upgrades 38

Optimize site performance with remote monitoring42

Mission critical infrastructure solutions46

Smarter and greener buildings48

Our global reach50





Welcome to the all-connected future

Delta's telecom power solutions are designed with the flexibility, efficiency and quality required to power your entire telecom infrastructure in the high-speed, connected world.

Our telecom power solutions make your telecom network ready for the steep traffic growth and requirements of 5G and fiber.

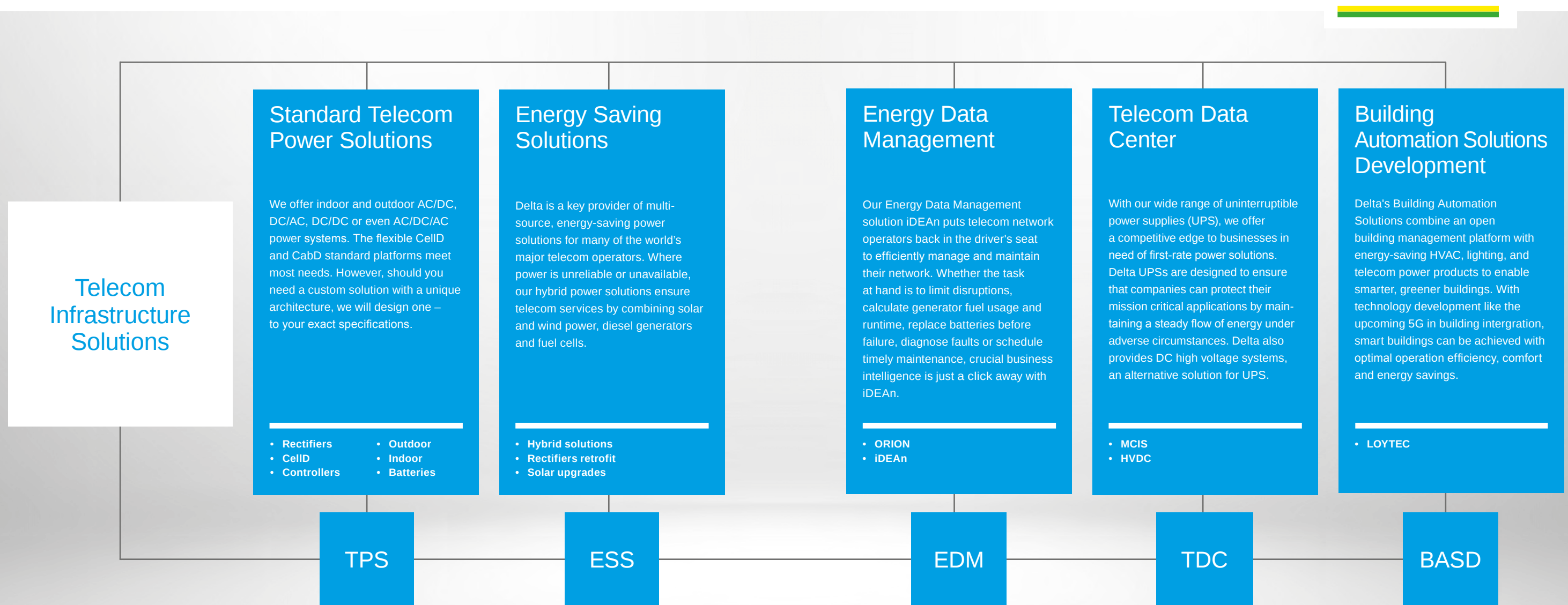
They are designed for wireless broadband access, fixed-line applications, internet backbone and data centers – from the core to the periphery of the network.

Our efficient and highly reliable products and services range from broadband networking peripherals and equipment, uninterruptible power supplies (UPS) to our InfraSuite data center infrastructure solutions.

Powerful and feature-rich, yet simple to use, our software platforms let you manage your entire fleet of networks with little effort and full control, to increase performance and reduce energy consumption.

**We know your
telecom infrastructure
requirements – and
have the power you
need to meet them.**

**Are you
ready for
5G?**



Complete telecom infrastructure solutions

Everything is connected. The telecom infrastructure is so much more than power. At Delta, we see the whole picture and offer complete solutions that meet your infrastructure needs.

We offer a wide range of power saving products. By combining them we create customer specific solutions. Developed by experts in their field, all our specialty products are combined in integrated solutions, delivered by a seamlessly integrated organization with one objective: **to provide you with the optimal solution and a great customer experience.**

All our products are fully compatible, and will ultimately help you bring down both CAPEX and OPEX cost.

Everything connected



TPS

Telecom
Power
Solutions

Designed and produced in Europe

All Delta solutions delivered in the EMEA region are assembled, tested and serviced at our production and service center in Slovakia.



Delta Electronics (Slovakia), s.r.o, our own factory, has been in operation in Slovakia since 1994 in the city of Nova Dubnica. Since 2007, our European factory has been operating in Dubnica nad Vahom.

Having a local hub located in the heart of Europe, ensures full compliance with all European quality requirements, quick assembly, excellent service and shorter delivery times.

At Delta, we are committed to quality. We firmly believe our center in Slovakia is an essential asset, which allows us to

deliver market leading quality products and first class service to all our EMEA customers.

28 000m²
Production space

600+
Local employees

4 000
Systems monthly

Slovakia
factory

Efficient
Power Output

98%



TPS

Telecom
Power
Solutions

Powerful rectifiers

EnergyE

Efficiency

	95.2 %	96.0%	96.4 %	98.0 %
2000 W	DPR 850-48 	DPR 2000-48 		
2900 W			DPR 2900-48 	
3000 W			DPR 3000B-48 	DPR 3000E-48 
4000 W	DPR 4000-48 			
6000 W			DPR 6000-48 	

With energy efficiency of up to 98 %, Delta's EnergyE rectifiers are the new benchmark in power density.

EnergyE series rectifiers are designed for medium to high power applications and minimizes site energy consumption, delivering significant OPEX savings, lower temperature management requirements and lower CO2 emissions.

Delta's rectifiers are hot-pluggable and can be installed across the majority of our solutions.

Main features

- Market leaders in power density – an essential feature in electronic devices as it defines the product's energy conversion capability in relation to its size
- Small size – Delta EnergyE rectifiers require less cabinet space than competing products
- Advanced over-voltage protection – fewer maintenance trips to the site
- High operation temperatures – EnergyE rectifiers also tolerate high operating temperatures, which delivers additional savings.

Applications

- Wireless applications
- Fixed line applications, data communications
- Network base stations

	DPR 850-48	DPR 2000B-48	DPR 3000B-48
RECTIFIERS	<i>EnergE</i>	<i>EnergE</i>	<i>EnergE</i>
			

OUTPUT			
Nominal system voltage	53.5 V _{DC}	54.0 V _{DC}	54.0 V _{DC}
Operating voltage range	42 V _{DC} to 58 V _{DC}	43 V _{DC} to 58 V _{DC}	43 V _{DC} to 58 V _{DC}
Power output	850 W	2000 W	3000 W
Efficiency	95.2 %	96.0 %	96.4 %
Current limitation	17.7 A	37.0 A	59.0 A

INPUT			
Mains voltage	80 V _{AC} to 300 V _{AC}	90 V _{AC} to 295 V _{AC}	90 V _{AC} to 300 V _{AC}
Mains frequency	50/60 Hz	45/66 Hz	50/60 Hz
Protection	Internal fuse 2 x 8 A (L,N)	Internal fuse 16 A (L,N)	Internal fuse 2 x 20 A

GENERAL			
Power density	30 W/in ³	36.5 W/in ³	56.8 W/in ³
Control and monitoring	ORION Touch		
Hot-pluggable	Yes	Yes	Yes
Dimensions (W x H x D)	51.8 x 40.0 x 247.2 mm	83.0 x 43.4 x 274.6 mm	84.0 x 41.0 x 265.0 mm
Weight	0.6 kg	1.04 kg	1.3 kg
Cooling	Fan cooled with speed control		
Operating temperature	-40° C to +75° C	-40° C to +75° C	-40° C to +75° C

STANDARDS			
Safety	EN / IEC 60950; UL 60950; CAN / CSA – C22.2		
EMI (radiated)	EN 55022 class B		
Environment	RoHS compliant		
Protection class	IP20 (EN 60529)		

ORDERING			
Order numbers	TPS1010004A-PML-M	ESR-48/40H E	ESR-48/60A A

	DPR 3000E-48	DPR 4000-48	DPR 6000-48
RECTIFIERS	<i>EnergE</i>	<i>EnergE</i>	<i>EnergE</i>
			

OUTPUT			
Nominal system voltage	54.0 V _{DC}	53.5 V _{DC}	53.5 V _{DC}
Operating voltage range	40 V _{DC} to 58 V _{DC}	42 V _{DC} to 58 V _{DC}	42 V _{DC} to 58 V _{DC}
Power output	3000 W	4000 W	6000 W
Efficiency	98.0 %	95.2 %	96.5 %
Current limitation	63.5 A	83.3 A	125.0 A

INPUT			
Mains voltage	80 V _{AC} to 300 V _{AC}	80 V _{AC} to 300 V _{AC}	250 V _{AC} to 530 V _{AC} (3-ph)
Mains frequency	50/60 Hz	50/60 Hz	50/60 Hz
Protection	Internal fuse 2 x 20 A	Internal fuse 2 x 30 A	Internal fuse 3 x 20 A

GENERAL			
Power density	56.8 W/in ³	27.3 W/in ³	26.5 W/in ³
Control and monitoring	ORION Touch		
Hot-pluggable	Yes	Yes	Yes
Dimensions (W x H x D)	84.0 x 41.0 x 270.0 mm	82.0 x 86.9 x 377.9 mm	129.5 x 83.0 x 380.7 mm
Weight	1.4 kg	3.5 kg	5.2 kg
Cooling	Fan cooled with speed control		
Operating temperature	-40 °C to +75 °C	-45 °C to +75 °C	-40 °C to +70 °C

STANDARDS			
Safety	EN / IEC 60950; UL 60950; CAN / CSA – C22.2		
EMI (radiated)	EN 55022 class B		
Environment	RoHS compliant		
Protection class	IP20 (EN 60529)		

ORDERING			
Order numbers	TPS1010027A	TPS1010016C	DPR 6000B-48 ID:A1

<i>EnergE</i>	Efficiency is 95.0 % to 95.9 %
<i>EnergE</i>	Efficiency is 96.0 % to 96.9 %
<i>EnergE</i>	Efficiency is 97.0 % to 97.9 %
<i>EnergE</i>	Efficiency is 98.0 %



TPS Telecom Power Solutions

Compact power systems

CellID

Load current | Installed power

Efficiency

			95.2%	96.4%	98%
CellID 20	20A	1.7kW	DPS 850B-48-3		
CellID 40	40A	2.55kW	DPS 850B-48-3		
CellID 100	100A	5.1kW	DPS 850B-48-6		
		8.7kW		DPS 2900B-48-3	
CellID 125	125A	8.7kW		DPS 2900B-48-3	
		9kW		DPS 3000B-48-3	DPS 3000B-48-3
CellID 300	250A	8.7kW		DPS 2900B-48-3	
		14.5kW		DPS 2900B-48-4	
		17.4kW		DPS 2900B-48-6	
		12kW		DPS 3000B-48-4	DPS 3000B-48-4
CellID 600	600A	34.8kW		DPS 2900B-48-12	
		26.1kW		DPS 2900B-48-9	
		27kW		DPS 3000B-48-9	DPS 3000B-48-9
		20kW	DPS 4000B-48-5		

The CellID product family is based on DC power systems. They are modular and can be configured with additional converters to meet any requirement. CellID systems are the most compact on the market and offer extremely high power density. CellID units can be installed alongside other equipment, in an existing rack for example. They work seamlessly and at optimal efficiency up to 98% with Delta's EnergE rectifiers and advanced controllers. This configuration ensures reliable system operation, generates savings in OPEX and CO2, and maximizes battery lifetime. The CellID family is ready to work as a hybrid system by simply connecting additional power sources like solar or wind.

Main features

- Wide DC power range – systems available from 20A to 600A
- Extremely wide input AC voltage range from 80 Vac to 300 Vac – for all AC networks (even low-quality AC grids) in any location
- Wide operating temperature range (-45 °C to +65 °C)
- Modular structure and configuration adjusted to customer requirements
- Highest efficiency – CellID systems use high-efficiency EnergE rectifiers
- Universal 19" rack-mounted modules to be installed in different 19" structures and cabinets

- Advanced monitoring – state-of-the-art controllers from the ORION family; 6 alarm relays, modems, WEB Interface, SNMP protocol
- Hot-plug modules and components
- Fully hybrid capable applications

Applications

- Mobile telecommunication
- Fixed line telecommunication
- Broadband networks
- Data centers
- Switching centers
- Modular UPS configurations

	CellID 20	CellID 40	CellID 100	
	DPS 850B-48-2	DPS 850B-48-3	DPS 850B-48-6	DPS 2900B-48-3
COMPACT POWER SYSTEMS 				
	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>
Rectifier module	DPR 850B-48 (max. 2 pcs.)	DPR 850B-48 (max. 3 pcs)	DPR 850B-48 (max. 6 pcs)	DPR 2900B-48 (max. 3 pcs)
Efficiency	95.2%	95.2%	95.2%	97.2%
Install power (max. configuration)	1.7 kW	2.55 kW	5.1 kW	8.7 kW
Input protection (recom.)	2x 16 A gL/gG type	25A gL/gG fuse	3 x 10A	3 x 20A
Dimensions H x W x D	43.6 (1U) x 444 (19") x 290mm	43.6 (1U) x 484.3 (19") x 280mm	86.8 (2U) x 484.3 (19") x 295mm	86.8 (2U) x 484.3 (19") x 323mm
Weight	3.9kg	4.1 kg	7.0 kg	7.0 kg

AC INPUT

AC configuration	2L + N + PE, optional bridging	L+N+PE	3L+N+PE	3 L + N + PE
Input voltage range	80V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}
Frequency range	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz
Mains connection	Screw terminals	Screw terminals	Screw terminals	Screw terminals

DC OUTPUT

Max. output current / max. installed power	26A / 1.7 kW	40A / 2.55kW	100A / 5.1kW	100A / 8.7 kW
Load breakers	5 x (2 - 30 A)	6x MHCb (2-30A) or 2x MHCb (6-50A)	12x MHCb (2-30 A) or 4x MHCb (16-100 A)	12x MHCb (2-30 A) or 4x MHCb (16-100 A)
Battery breakers	1 x 30 A	2x MHCb 50A	2x MHCb 100A	2x MHCb 100A
LVD (battery)	Optional	Yes	Yes	Yes
PLD (not critical loads)	No	No	Optional	Optional
Output protection	Inbuilt fuses (both poles) Over-heating protection			
Critical / non critical loads configuration	N/A	N/A	6/6 or 2/2	6/6 or 2/2

CONTROL / MONITORING

Controller	ORION, ORION Touch
Local interface	Display, keypad, LEDs
Remote monitoring	Alarm relays, modem option, LAN, SNMP protocol

OTHERS

Operating temperature	-45 °C to +65 °C	-45 °C to +65 °C	-45 °C to +65 °C	-45 °C to +65 °C
Max. relative humidity	95 %, non condensing	95 %, non condensing	95 %, non condensing	95 %, non condensing
Environment standard	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3
Safety standard	IEC 60950	IEC 60950	IEC 60950	IEC 60950
EMC standard	EN 300386	EN 300386	EN 300386	EN 300386

ORDERING

System	3799890900	3799321900	3799361100	3799361100
Rectifier	TPS1010004B-PML-M	TPS1010004B-PML-M	TPS1010004B-PML-M	ESR-48/56V F C-A or ESR-48/56D A-M

	CellID 125	
	DPS 2900B-48-3	DPS 3000B-48-3
COMPACT POWER SYSTEMS 		
	<i>Energie</i>	<i>Energie</i>
Rectifier module	DPR 2900B-48 (max. 3 pcs)	DPR 3000B/E-48 (max. 3 pcs)
Efficiency	97.2%	96.4% or 98%
Install power (max. configuration)	8.7 kW	9 kW
Input protection (recom.)	3 x 20A	3x 20 A
Dimensions H x W x D	132 (3U) x 484.3 (19") x 359 mm	132 (3U) x 484.3 (19") x 343 mm
Weight	8.6 kg	9 kg

AC INPUT

AC configuration	3L + N + PE	3L + N + PE
Input voltage range	80V _{RMS} to 300V _{RMS}	80/90V _{RMS} to 300V _{RMS}
Frequency range	45 Hz to 66 Hz	50 Hz to 60 Hz
Mains connection	Screw terminals	Screw terminal

DC OUTPUT

Max. output current / max. installed power	125A / 8.7 kW	125 A / 9 kW
Load breakers	10x MCB or 15x MCB (up to 63A per pole)	11 x MCB (2 - 63 A)
Battery breakers	6 x MCB or 9x MCB (up to 125A per pole)	2 x MCB (80 - 125 A)
LVD (battery)	Yes	Yes
PLD (not critical loads)	Optional	Optional
Output protection	Inbuilt fuses (both poles) Over-temperature protection	
Critical / non critical loads configuration	5/4	5/4

CONTROL / MONITORING

Controller	ORION, ORION Touch
Local interface	Display, keypad, LEDs
Remote monitoring	Alarm relays, modem option, LAN, SNMP protocol

OTHERS

Operating temperature	-45 °C to +65 °C	-45 °C to +65 °C
Max. rel. humidity	95 %, non condensing	95 %, non condensing
Environment standard	ETSI EN 300019-1-3	ETSI EN 300019-1-3
Safety standard	IEC 60950	IEC 60950
EMC standard	EN 300386	EN 300386

ORDERING

System	3799577600	3799577600
Rectifier	ESR-48/56V F C-A or ESR-48/56D A-M	ESR-48/60A A-S or TPS1010027A-PML-S

CellID 300				
COMPACT POWER SYSTEMS	DPS 2900B-48-3	DPS 2900B-48-5	DPS 2900B-48-6	DPS 3000B-48-4
				
	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>
Rectifier module	DPR 2900B-48 (max. 3 pcs)	DPR 2900B-48 (max. 5 pcs.)	DPR 2900B-48 (max. 6 pcs.)	DPR 3000B/E-48 (max. 4 pcs.)
Efficiency	97.2%	97.2%	97.2%	96.4% or 98%
Install power (max. configuration)	8.7 kW	14.5kW	17.4kW	12 kW
Input protection (recom.)	3x 20A (3L + N + PE)	3x 40A (3L + N + PE)	3x 40A (3L + N + PE)	3x 40A (3L + N + PE)
Dimensions H x W x D	221.6 (5U) x 482.2 (19") x 322mm	2222 (5U) x 479.7 (19") x 315 mm	266 (6U) x 479.7 (19") x 315 mm	177.8 (4U) x 484.3 (19") x 328 mm
Weight	13 kg	14 kg	14 kg	13 kg

AC INPUT

AC configuration	3L + N + PE, configurable	3L + N + PE, configurable	3L + N + PE, configurable	3L + N + PE, configurable
Input voltage range	80V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}	80/90V _{RMS} to 300V _{RMS}
Frequency range	45 Hz to 66Hz	45Hz to 66 Hz	45 Hz to 66Hz	50Hz to 60 Hz
Mains connection	Screw terminals	Screw terminals	Screw terminals	Screw terminals

DC OUTPUT

Max. output current / max. installed power	250A / 8.7kW	250 A / 14.5kW	250 A / 17.4 kW	250 A / 12 kW
Load breakers	15-21x MCB (2 - 63A)	15-21x MCB (2 - 63A)	15-21x MCB (2 - 63A)	15 - 21 x MCB (2 - 63 A)
Battery breakers	2-6x MCB (up to 125A), 2-3x MCB (up to 200A), 2x MCB (up to 300A)			
LVD (battery)	Yes	Yes	Yes	Yes
PLD (not critical loads)	Optional	Optional	Optional	Optional
Output protection	Built-in fuses (both poles) Over temperature protection			
Critical / non critical loads configuration	7/8 or 10/8 or 13/8	7/8 or 10/8 or 13/8	7/8 or 10/8 or 13/8	7/8 or 10/8 or 13/8

CONTROL / MONITORING

Controller	ORION, ORION Touch
Local interface	Display, keypad, LEDs
Remote monitoring	Alarm relays, modem option, LAN, SNMP protocol

OTHERS

Operating temperature	-45 °C to +65 °C	-45 °C to +65 °C	-45 °C to +65 °C	-45 °C to +65 °C
Max. rel. humidity	95 %, non condensing	95 %, non condensing	95 %, non condensing	95 %, non condensing
Environment standard	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3
Safety standard	IEC 60950	IEC 60950	IEC 60950	IEC 60950
EMC standard	EN 300386	EN 300386	EN 300386	EN 300386

ORDERING

System	3799624700	3799624700	3799624700	3799624700
Rectifier	ESR-48/56V F C-A or ESR-48/56D A-M	ESR-48/56V F C-A or ESR-48/56D A-M	ESR-48/56V F C-A or ESR-48/56D A-M	ESR-48/60A A-S or TPS1010027A-PML-S

CellID 600				
COMPACT POWER SYSTEMS	DPS 2900B-48-9	DPS 2900B-48-12	DPS 3000B-48-9	DPS 4000B-48-5
				
	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>	<i>Energie</i>
Rectifier module	DPR 2900B-48 (max. 9 pcs)	DPR 2900B-48 (max. 12 pcs)	DPR 3000B-48 (max. 9 pcs)	DPR 4000B-48 (max. 5 pcs)
Efficiency	96.4%, 97.2% or 98%	97.2%	96.4% or 98%	95.2%
Install power (max. configuration)	26.1kW	34.8kW	29 kW	20kW
Input protection (recom.)	2x (3x 40 A)	2x (3x 40 A)	2x (3x 40 A)	3x 50 A
Dimensions H x W x D	308 (7U) x 482 (19") x 335 mm	351 (8 U) x 482 (19") x 335 mm	221.6 (5U) x 484.3 (19") x 345 mm	266 (6 U) x 482 (19") x 500 mm
Weight	17.5 kg	20 kg	17.5kg	20 kg

AC INPUT

AC configuration	2x (3L + N + PE)	2x (3L + N + PE)	2x (3L + N + PE)	3L + N + PE
Input voltage range	80/90V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}	80/90V _{RMS} to 300V _{RMS}	80V _{RMS} to 300V _{RMS}
Frequency range	50 Hz to 60 Hz	45 Hz to 66 Hz	50 Hz to 60 Hz	45 Hz to 66 Hz
Mains connection	Screw terminals	Screw terminals	Screw terminals	Screw terminals

DC OUTPUT

Max. output current / max. installed power	600 A / 26.1 kW	600 A / 34.8 kW	600 A / 29 kW	600 A / 20 kW
Load breakers	10x MCB or 15x MCB (up to 63A per pole)			
Battery breakers	6x MCB or 9x MCB (up to 125A per pole)			
LVD (battery)	Yes	Yes	Yes	Yes
PLD (not critical loads)	Optional	Optional	Optional	Optional
Output protection	Built-in fuses (both poles), Over temperature protection			
Critical / non critical loads configuration	7/8 or 3/7	7/8 or 3/7	7/8 or 3/7	7/8 or 3/7

CONTROL / MONITORING

Controller	ORION, ORION Touch
Local interface	Display, keypad, LEDs
Remote monitoring	Alarm relays, modem option, LAN, SNMP protocol

OTHERS

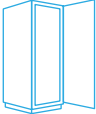
Operating temp.	-45 °C to +45 °C	-45 °C to +65 °C	-45 °C to +45 °C	-45 °C to +45 °C
Max. rel. humidity	95 %, non condensing	95 %, non condensing	95 %, non condensing	95 %, non condensing
Environment std.	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3	ETSI EN 300019-1-3
Safety standard	IEC 60950	IEC 60950	IEC 60950	IEC 60950
EMC standard	EN 300386	EN 300386	EN 300386	EN 300386

ORDERING

System	3799671200	3799671200	3799671200	3799671200
Rectifier	ESR-48/60A A-S or TPS1010027A-PML-S	ESR-48/56V F C-A or ESR-48/56D A-M	ESR-48/60A A-S	TPS1010016C

Energie Efficiency is 95.0 % to 95.9 %

Energie Efficiency is 97.0 % to 97.9 %

Site Support Cabinets							Wall Box			
SUPPORT CABINETS	SC 600	SC 770	SC 1300	SC 150	SC 1800	SC 2000	WALL MOUNTED SOLUTIONS	WB 5U	WB 8U	WB 12U
										
Internal space	12 U	15 U	27 U	31 U	38 U	42 U	Internal space	5 U / 19"	8 U / 19"	12 U / 19"
Height in mm	620	759	1295	1500	1790	1961	Height	253 mm	387 mm	564 mm
Width	600 mm						Width	548 mm		
Depth	450 mm or 600 mm						Depth	475 mm		
Cooling	Natural convention (no fans, no air filter)						Cooling	Natural convention (no fans, no air filter)		
Optional equipment	Battery shelves (240 kg), 19" or 21" internal rails / supporters, front door or battery section covers, rear panel or steel crossing, blanking plates (1U, 2U and 3U)						Optional equipment	Front door, Blanking plates (1U, 2U and 3U)		
Ordering	3799295400 Configurator						Ordering	3791518600 Configurator		

AC and/or DC Panel		
DISTRIBUTION	DPD/APD/DAPD 19IN-3U	DPD /APD/DAPD 21IN-3U
		
Operating voltage / Current (max.)	AC: 230 / 400 V (1 or 3 ph) / Related to equipment DC: 20-60 V / 300 A	
Internal space	24 modules (18 mm)	27 modules (18 mm)
Dimensions H x W x D	133 (3U) x 480 (19") x 245 mm	133 (3U) x 530 (21") x 245 mm

The power of communication
is immense -
we provide the power that makes
communication possible



Indoor systems

CabD

CabD Systems				
INDOOR SYSTEMS 	CabD 600	CabD 1000	CabD 1500	
				
	Max. output current / max. installed power	600 A / 48kW	1000 A / 72 kW	1500 A / 96 kW
	Rectifier module	DPR 2900 (max. 12 pcs) DPR 3000 (max. 12 pcs) DPR 4000 (max. 8 pcs) DPR 6000 (max. 6 pcs)	DPR 2900 (max. 20 pcs) DPR 3000 (max. 24 pcs) DPR 4000 (max. 18 pcs) DPR 6000 (max. 12 pcs)	DPR 2900 (max. 28 pcs) DPR 3000 (max. 30 pcs) DPR 4000 (max. 18 pcs) DPR 6000 (max. 12 pcs)
	Efficiency	95.2% ... 98%	95.2% ... 98%	95.2% ... 98%
AC configuration	3L + N + PE or 3L + PE			
Load and battery connection	Configurable – modular design			
LVD / PLD	Option / Option			
Controlling and monitoring	ORION, ORION Touch			
Operating temperature	-5°C to +45 °C			
Dimensions H x W x D	Single cabinet 1800 / 2000 / 2200 x 600 x 600 mm	Single or multicabinets 2000 / 2200 x 600 x 600 / 800 mm	Single or multicabinets 2000 / 2200 x 600 x 600 / 800 mm	
Weight	Depends on the configuration			
Ordering	3799363900 Configurator	3791691700 Configurator	3791691700 Configurator	

The Delta CabD product series offer high power-density systems, ideal for space critical indoor applications. CabD systems are built on modular basis and allow flexibility in configuration.

The system includes up to 30 rectifiers, AC and DC connections, battery connection and the Delta ORION controller. The CabD family is ready to work as a hybrid system.

- Main features

 - Scalable power system up to 96 kW per cabinet and up to 768 kW in parallel
 - Up to 281 kW of solar power can be used in parallel
 - Truly modular building blocks
 - Mirroring the system built for top entry or bottom entry for cabling
 - High efficiency rectifiers up to 98 %
 - Enhanced monitoring and controlling with ORION controller
- Applications

 - Central offices
 - Telecom switching centers
 - Data centers
 - Modular UPS configurations



TPS

Telecom
Power
Solutions

Indoor system

Inverter Systems, Cell- & CabD

Main features

- Configurable inverter system using CE+T inverters
- 0second transfer between AC and DC sources
- Optional manual bypass switch for complete system service
- Integrated AC load distributions
- 1-phase and 3-phase AC inputs and outputs
- Communication with ORION optional

Applications

- **Modular UPS configurations**
- **Mobile telecommunications**
- **Fixed Line telecommunications**
- **Broadband networks**
- **Data centers**
- **Switching centers**
- **Indoor and outdoor**

Delta's inverter systems are integrated with Delta's CabD or standard 19" racks for installation inside outdoor or indoor support cabinets.

The "Twin Sine Innovation" TSI technology eliminates all single points of failure with full scalability. For CellD versions typical configuration is one or two inverter shelves and for CabD – up to 6 for 60 kVA system.

The products offers flexible architecture and can be configured according to specific needs. It is possible to configure an optional manual bypass switch for complete system override. CE+T T2S-RS485 monitor unit can communicate electrical parameters with the Delta ORION controller. AC output is either bulk terminal or based on DPN or RCD devices.

	CellD			CabD	
INDOOR SYSTEMS	APS 750-230-8 19IN	APS 1500B-230-8 19IN	APS 2500B-230-8 19IN	APS 2500B-230-24 CabD	
					
	Inverter module	CE+T Nova 750 VA (up to 8 pcs)	CE+T Media 1500 VA (up to 8 pcs)	CE+T Bravo 2500 VA (up to 8 pcs)	CE+T Bravo 2500 VA (up to 24 pcs)
	Efficiency EPC mode / DC online mode	93 % / 89 %	95 % / 91 %	96 % / 91 %	96 % / 91 %
	Dimensions H x W x D	177.8 (4U) / 222,3 (5U) x 483 (19") x 410 mm	266.7 (6U) / 355.6 (8U) x 483 (19") x 379 mm	266.7 (6U) / 355.6 (8U) x 483 (19") x 511 mm	1800 / 2000 / 2200 x 600 x 600 mm
Manual by-pass	Optional				
AC INPUT					
Voltage range	150 V _{AC} to 265 V _{AC}				
Frequency range (selectable)	47 Hz to 53 Hz or 57 Hz to 63 Hz				
Power factor	> 99 %				
AC input configuration	1-phase	1-phase	1-phase	1-phase or 3-phase	
DC INPUT					
Voltage range	40 V _{DC} to 60 V _{DC}				
Nominal current	56A (4 modules) 112A (8 modules)	112A (4 modules) 224A (8 modules)	224A (4 modules) 448A (8 modules)	448A (8 modules) 672A (12 modules) 896A (16 modules) 1344A (24 modules)	
Maximum input current	88A (4 modules) 176A (8 modules)	192A (4 modules) 384A (8 modules)	336A (4 modules) 672A (8 modules)	672A (4 modules) 1008A (8 modules) 1344A (16 modules) 2016A (24 modules)	
AC OUTPUT					
Redundant output power (n+1)	2250 VA / 1725 W (4 modules) 5250 VA / 4025 W (8 modules)	4500 VA / 3600 W (4 modules) 10.5 kVA / 8.4 kW (8 modules)	7.5 kVA / 6.0 kW (4 modules) 17.5 kVA / 14.0 kW (8 modules)	17.5 kVA / 14 kW (8 modules) 27.5 kVA / 22 kW (12 modules) 37.5 kVA / 30 kW (16 modules) 57.5 kVA / 46 kW (24 modules)	
Nominal current per inverter	3.25A	6.6A	10.9A	10.9A	
Short circuit clear up capacity per inverter	29.25A for 20 ms (when AC input connected)	66A for 20 ms (when AC input connected)	109A for 20 ms (when AC input connected)	109A for 20 ms (when AC input connected)	
AC output options	Bulk terminal, DPN B-curve with optional alarm, RCD B-curve with optional alarm				
OTHERS					
Operating temperature	-20° C to 50° C				
Relative humidity	95 %, non-condensing				
Protection class	IP20				
Safety	IEC EN 60950				
EMC	EN 300386-2				
Monitoring	T2S for communication with ORION	T2S for communication with ORION	T2S for communication with ORION	T2S for communication with ORION, ORION optional	
ORDERING					
System	3799531800	3799628800	3799547100	3799626300	
Inverter	4909018426	4909018626	4909018526	4909018526	



TPS

Telecom
Power
Solutions

Outdoor systems

OutD



M series,
passive cooling



M series,
active cooling



V series,
passive cooling



V series,
active cooling

Delta OutD are cost-effective and high-density outdoor systems, suitable for any climate. The OutD systems are equipped with advanced cooling solutions and ensure substantial savings in both capital and operational expenditures. Additionally, all OutD products ensure low noise levels and feature a multi lock mechanism.

We offer a choice between a basic cost-effective configuration and an optimized modular system alternative.

Main features

- Modular
- Flexible configuration
- Multiple thermal management options
- Enhanced noise management
- Choice between cost effective or fully optimized configuration

Applications

- Network base stations
- Wireless applications
- Fixed line applications, data communications

Active
Cooling
Possibilities

OutD X Systems		
OUTDOOR SYSTEMS		
Key advantages	• Single or Multilayer wall design • -7dB(A) (lower than std. cabinets with the same cooling capacity) • Flexible configuration - 19" or 21" racks, battery shelves, multiple PSU options (power supply systems), multiple cable management options • Battery box extension (battery cooler) • IP20 equipment extension • Side by side connection available	
Dimensions H x W x D	OutD 1.5M H1500 x W770 x D852mm - 28HU OutD 1.8M H1829 x W770 x D852mm - 35HU OutD 2.0M H2052 x W870 x D952mm - 40HU	
Protection class	IP55	
Material	Steel or Aluminium, Single or multilayer with optional thermal insulation	
Lifetime	Steel: up to 15 year, Aluminium: up to 20 years	
Cooling options	AV (Air Ventilation), HEX (Heat Exchanger), AC (Air Con), Hybrid AV+AC (Hybrid Cooling + Air Ventilation + Air Con)	
Features	• Resistant outdoor enclosure made from non-corrosive aluminum and galvanized steel sheets • Multi layer wall design with thermal insulation of the walls • Bottom cable entry with MC25 cable glands and easy cable routing • Various thermal management options • CAPEX Optimized - Design to cost • Modular, dismountable solution • Cooling systems located on the door only • Internal structure supporting FT batteries up to 190Ah • Alarms terminals	
Options	Cable management: Delta universal, PG, Multigate, Roxtec, service LED light, smoke detectors, flood water sensor, blocked filter sensors, high humidity sensor, notebook shelf, battery movable tray, heaters, alarm terminals (Krone, Screw) and much more	

OutD Systems					
OUTDOOR SYSTEMS	OutD M Series			OutD V Series	
	Optimized modular design 			Basic and cost effective solution 	
	Key advantages			Key advantages	
	• Flexible and modular • Multiple cooling options (AV, AC, Hybrid AC+AC) • Low audible noise emissions			• Cost effective, basic solution for high runner applications • Multiple cooling options (AV, AC, Hybrid AC+AC) • Low audible noise emissions	
	Dimensions H x W x D			Dimensions H x W x D	
	OutD 1.5M	1500 (28U) x 770 x 852mm		OutD 0.7V	701 (12U) x 605 x 530mm
	OutD 1.8M	1829 (35U) x 770 x 852mm		OutD 1.2V	1257 (21U) x 708 x 752mm
	OutD 2.0M	2052 (40U) x 870 x 952mm		OutD 1.8V	1860 (35U) x 708 x 752mm
				OutD 2.0V	2047 (39U) x 808 x 852mm
				OutD 2.2V	2247 (44U) x 808 x 852mm
Protection class		Up to IP55			
Material		Steel or aluminum, single or multilayer with optional thermal isolation			
Lifetime		Steel: up to 15 years, aluminium: up to 20 years			
Cooling options		AV (Air Ventilation), HEX (Heat Exchanger), AC (Air Con), Hybrid AV+AC (Hybrid Cooling + Air Ventilation + Air Con)			
Features		• Multilayer wall design based on steel • Assembling – disassembling on site, • Flat packing • Rear door available, side panels removable • Side by side and vertical extension modules • Flexible configuration – 19" or 21" racks, battery shelves, multiple power supply systems, multiple cable management options • Optional battery box extension (battery cooler) • Optional extension IP20 equipment • Noise 7dB(A) lower than standard cabinets with the same cooling capacity (for AV system) • Single or multilayer wall design • Steel or aluminum outside walls • Flexible configuration – 19" or 21" racks, battery shelves, multiple power supply systems, multiple cable management options • Optional battery cooler • Optional extension IP20 equipment • Noise 7dB(A) lower than standard cabinets with the same cooling capacity (for AV system)			
Options		Cable management: Delta universal, PG, Multigate, Roxtec, service LED light, smoke detectors, flood water sensor, blocked filter sensors, high humidity sensor, notebook shelf, battery movable tray, heaters, alarm terminals (Krone, Screw) and much more			



TPS Telecom
Power
Solutions

Outdoor small cells

BoxD

BoxD Systems				
OUTDOOR SYSTEMS	Golden Eagle	Outdoor Rectifier	Small Cell BoxD (Type V)	Small Cell BoxD (Type H)
Dimensions H x W x D	286.4 x 393.6 x 94.6mm	360 x 209,8 x 88,8mm	684 x 489 x 312mm	584 x 635 x 315mm
EN 60529 class	IP65	IP65	IP55	IP55
Material	Aluminium	Aluminium	Enclosure: Aluminium / Internal Parts: Galvanized steel	
Internal 19" space	n/a	n/a	2.5U (no battery) max. depth 282mm	5U (no battery) max. depth 415mm
Weight	9kg	6,4kg	28kg	35kg
User Interface	CANbus to System Controller	Status Indication	None or ORION UIM	CellID configurable
Mounting	Lamppost, pole or wall mountable	Lamppost, pole or wall mountable	Lamppost, pole or wall mountable	Lamppost, pole or wall mountable
Cooling options	Natural cooling	Natural Cooling	Heat Exchanger 15W/K	Heat Exchanger 15W/K
PSU Power		1000W / 42 - 58Vdc	2x850W / 42 - 58Vdc	CellID configurable
Battery	-	-	14Ah (1.5U) or 24Ah (2.5U)	Li-Ion 19", max. depth 415mm
Operating temperature / Humidity	-40° C to +55° C / 95% RH non-cond.	-40° C to +60° C / 95% RH non-cond.	-33° C to +40° C / 95% RH non-cond.	-33° C to +40° C / 95% RH non-cond.
Connectors	AC, DC, Battery, Alarm	AC input, 2 DC outputs, Alarms	n/a	CellID configurable
Options	n/a	Service LED light Alarm terminals	n/a	- DC Power supply: 1U Delta PS / 2-4U Li-Ion batt. - Inverter system:1U Delta PS / 2-3U Li-Ion batt. / 1U Inverter 230V - Outdoor UPS:1U AC panel / 2U UPS main unit / 2U Batt. Pack

The Delta BoxD Small Cells series is the choice when space is scarce or site density needs to be increased cost-effectively. Available in several dimensions, power levels and form factors, Delta's Small Cell series is the perfect solution for nearly any setting.

From our smallest DC powered units to our largest model that can be outfitted with battery backup, Li-Ion technology, UPS and an AC Inverter, Delta Small Cells can cope with increasing traffic needs, network coverage and capacity challenges.

Main features

- Highly configurable with: battery backup, Li-Ion technology, UPS, AC Inverter
- Wall and pole mounted outdoor environment according to ETS 300 019-1-4 class 4.1
- Optional power system controller ORION can be used as system and climate controller
- Cooling system based on heat exchanger
- Up to 2.5U x 19" structure for -48V user equipment
- Compatible with small 19inch CellID40/ CellID100 Delta power systems

Applications

- Integral part of LTE, 5G network
- Network base stations
- Wireless applications
- Industrial design in urban areas
- Fixed line applications, data communications

Main features

- High safety
 - Certification: IEC 60 950-1, EN 300 386
 - Advanced BMS to protect battery module from abnormal conditions
 - Retrofit application
 - Direct replacement of Lead-acid battery pack
 - Flexible capacity expansion
- Parallel expansion up to 16 modules
 - Excellent manageability
 - Very compact design - 19IN 2U panel
 - Hot plug connection
 - Signal indication battery status
 - Allowed for multi-units or multi-sites remote management

Applications

- Telecom Back-up power
- Energy Back-up and storage for residential, commercial and industrial needs
- Direct replacement of conventional 48V lead-acid battery system



Batteries

Lithium-Ion Battery

Delta DF 48E100 battery module is an excellent energy source with a long service life for 48V applications such as telecom, data center and residential power backup. It is in a compact package of high energy density to save space and weight.

The maintenance free design coupled with the intelligent remote monitoring function can eliminate on-site maintenance efforts and save considerable operational costs. To ensure the safety and reliability of the battery, advanced

BMS (Battery Management System) can protect the battery from abnormal conditions, such as over temperature, over charging/ discharging.

It can also control the battery operation at the optimal condition to guarantee long service life. Delta DF 48E100 is an incomparable replacement to VRLA and conventional batteries of lower TCO (Total cost of Ownership): at least 3 times longer service life, more than 50% space saving and 65% lighter weight and maintenance free.

Lithium-ion Battery		
BATTERIES	DF 48E40SR	DF48E100
		
Cells type	Li-ion (NCA+NCM blending)	Li-ion (NCM)
Battery nominal capacity	40 Ah	100 Ah
Battery usable capacity	37 Ah	97 Ah
Expected life	15 years	15 years
Nominal energy	2,1 kWh	5,2 kWh
Nominal / Floating module voltage	51,8 / 56,7 V	51,8 / 55,3 V
Module voltage	48 V	33 A (0,33C)
Maximum discharge current (continuous)	40 A (1C)	100 A (1C)
Maximum discharge current (not continuous)	80 A (2C)	200 A (2C)
Discharging cut-off voltage (LVD)	40,5 V	42 V
Energy metering	Internal SOC counter, measurements based on advanced ICPT algorithms	Internal SOC counter, measurements based on advanced ICPT algorithms
OPERATING CONDITION		
Temperature range recommended	0° C to +45° C	0° C to +45° C
Temperature range extended (derating)	-20° C to +60° C	-20° C to +60° C
Protection class	IP 20	IP 31
SAFETY		
Safe cell design	Cylindrical cells with venting device	Cylindrical cells with venting device
Advanced BMS	ICPT BMS system with safety lines, with galvanic isolated power supply, multi-level fault detection system	
Cells thermal management	Integrated cells cooling system	
STANDARDS		
EMC	EN 300 386	EN 300 386
Safety (Functional and electric)	IEC 60 950-1	IEC 62619
Environment	ETS 300 119-1-3 Class 3.2, Protection class IP 20	ETS 300 119-1-3
Transport	IEC 62 281, UN 38.3	UN 38.3
MECHANIC		
Dimensions (W x H x L)	439 x 85 x 404 mm (19IN / 2U)	439 x 157 x 500 mm (19IN / 4U)
Weight	Approx. 23 Kg	Approx. 40 Kg



ESS

Energy
Saving
Solutions

Hybrid solutions – saving energy and the environment

Where power is unreliable or unavailable, our hybrid energy power solutions ensure telecom services by combining: solar and wind power, diesel generators and fuel cells.

Climate change dictates an urgent need to curb CO₂ emissions. Hybrid solutions contribute significantly en route to a completely renewable energy future.

Delta is a key provider of hybrid solutions for many of the world's major telecom operators. We offer hybrid power solutions with energy savings possibilities for Base Transceiver Stations (BTS).

A possible scenario using Delta solutions:

ONE
year

1 000
BTS sites

105
tonnes CO₂ reduction

Hybrid
power
Green
power



ESS

Energy
Saving
Solutions

Main Features

- Power up to 24kW, high power density
- Renewable green energy by wind and solar power
- Cyclic battery discharge for genset fuel efficiency
- ORION controller for ultimate energy management and site control

Applications

- **Wireless applications, network base stations**
- **Remote areas with difficult site access**
- **Areas with unreliable mains grid or off-grid**

RenE secures reliable and uninterrupted power supply even in remote and rural areas with missing power network or low network reliability. In combination with careful energy management from alternative sources, the system lowers operational expenditure, minimizes the waste of energy and can significantly drop CO2 emissions.

Renewable hybrid energy solutions

RenE

	HDPS-2900-2200-48	HODPS-2900-2200-48
	Energie	Energie
INPUT GRID SECTION		
AC connection	3L + N + PE or L + N + PE	
Nominal voltage	3x 230VAC (L-N, 3-phase) or 230VAC (1-phase)	
Voltage range	88 V _{RMS} to 300 V _{RMS}	
Frequency range	45 to 66 Hz	
Nominal current / phase	Up to 50 A _{RMS}	
Mains terminal	Terminal blocks or main switch	
Input protection, transient OVP	Optional	
INPUT GENERATOR SECTION		
AC connection	3L + N + PE or L + N + PE	
Nominal voltage	3x 230VAC (L-N, 3-phase) or 230VAC (1-phase)	
Voltage range	88 V _{RMS} to 300 V _{RMS}	
Frequency range	45 to 66 Hz	
Automatic transfer switch	Voltage relay monitoring, mechanical interlocking (optional)	
Mains terminal	Terminal blocks or main breaker	
Input protection	Optional	
INPUT SOLAR SECTION		
Solar DC connection	Up to 15 feeds, 10A each	
Voltage range	80 V _{DC} to 350 V _{DC}	
Current max / pole	10 A _{DC}	
Input terminal	Up to 15 breakers 2P 10A	
Input protection	Internal fuse	
Transient protection	600 V _{DC} / 2+V	
INPUT WIND SECTION (OPTIONAL)		
Wind DC connection	One feed 48 V _{DC}	
Max power of the turbine	Up to 3kW	
Voltage range	42 V _{DC} to 58 V _{DC}	
Max current	63 A	
Input terminal	1 breaker 1P 63A	
OUTPUT POWER SECTION		
Rectifier max power	34,8 kW	
Solar chargers max power	33,0 kW	
Wind input max power	3,0 kW	
Voltage range	42 V _{DC} to 58 V _{DC} , 54 V _{DC} nominal	
Battery MCB, Load MCB	See CellID specifications	
LVLD	250A or 600A depending on actual capacity	
PLD	(optional) 250A or 600A depending on actual capacity	
Battery capacity extention	Front Terminal or OPzV or Li-Ion	
ENERGY MANAGEMENT SECTION		
Energy management	Configurable, depending on applied energy sources and OPEX saving targets	
Thermal management	Optional	
AC & generator management	Automatic, configurable	
Energy meter	AC and DC power throughput	
GENERAL		
Ambient temperature	-5° C to +45° C	-40° C to +45° C
Safety	IEC/EN 60950	
EMC	EN 300386	
Protection	IP20, ETS 300019 Part 1 - 3	IP55, ETS 300019 Part 1 - 4
Ordering	3799279100 Configurator	

Energie Efficiency is 97.0 % to 97.9 %



Main features

- Significant OPEX reduction/savings
- High efficiency > 96 % by using the Delta PVC 2200B-48 solar converters for reduced of Energy consumption on on-grid or diesel powered off-grid networks and reduced CO2 emissions
- Reduced service requirements by using Delta advanced ORION power system controller technology for optimized system operation
- Support of up to 6 solar panel arrays with 8 to 9 solar panels connected in series
- Easy installation, commission and maintenance

Applications

- Telecom - mobile / wireless
- Radio bbase stations/ cell cites
- LTE / 4G / WiMAX
- Microwave
- Broadband
- Telecom - fixed
- Central office
- Telephony servers / switches
- Fiber optics / FTTx
- Microwave
- Cable
- Broadband
- Data center



Solar upgrades

Power Systems

The Delta Solar Upgrades are the ideal solution for enhancing existing on-grid and off-grid powered system installations.

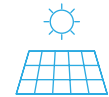
The usage of renewable solar energy provides a strategic way to reduce total consumption and CO2 emissions of the power system, thus providing savings on energy costs and reduction of the carbon footprint of the power system during its operational lifetime.

With Delta state of the art ORION power system controller the overall performance of the solar upgrade enhanced system can be further optimized for energy savings (kWh) and CO2 emissions per consumed kWh.

The Delta Solar Upgrades product family consists of modular 19"/21" building blocks which are easily adaptable to various 48V power system installations providing scalability to meet different load requirements.

The upgrades can be paralleled for flexible configuration. Upgrading may include all the cabling, wall mounting and the ORION controller.



	PVS 2200B-48-1	PVS 2200B-48-3	PVS 2200B-48-6
SOLAR SYSTEMS 			

OUTPUT

Operating voltage range	42V _{DC} to 58V _{DC}	42V _{DC} to 58V _{DC}	42V _{DC} to 58V _{DC}
Peak power	2.2kW	6.6kW	13.2kW
Efficiency	96%	96%	96%
MTTP efficiency	>99.5%	>99.5%	>99.5%
Current limitation	46A	138A	276A

SOLAR INPUT

Solar modules	1 x PVC 220B-48	3 x PVC 220B-48	6 x PVC 220B-48
Voltage range	50V _{DC} to 350V _{DC}		
Voltage range, full power	250V _{DC} to 350V _{DC}		
Current	10A per string		
Connections	Screw terminals for cables		
Input protection	2-pole MCB 10A		
Over voltage protection	Surge protection devices (SPD) 2+0 type 2		

GENERAL

Dimensions (W x H x D)	483.0 (19") x 43.5 (1 U) x 372.0mm	483.0 (19") x 178.0 (4 U) x 298.0mm	483.0 (19") x 221.0 (45 U) + 88.0 for cabeling x 298.0mm
Weight (without chargers)	4 kg	10 kg	12 kg
Operating temperature	-40° C to +75° C		
Relative humidity	≤95 %, non-condensing		

CONTROL / MONITORING

Interface to ORION controller	RJ12 terminal, RECT bus
Module interface	Status indication LED
Optional ORION add-on	Delta CabD control module, 19" rack module and ORIONc

OPTIONS

Solar panel cabel kit	5, 10, 15 , 20, 25, 30, or 35 m
DC cables to system	1, 3, and 6 m
Wall mounting equipment	5 U and 8 U high wall boxes

STANDARDS

Safety	EN /IEC 60950
EMC	EN 300386
Environment	ETSI EN 300019-1-3

ORDERING

Product configurator	3799761500
Fixed product configurations	Upon request
PV charger PVC 2200B-48	DCS-48/45A A-A



Our hybrid solutions help overcome the obstacle of poor or non-existing grids



Main features

- Remote monitoring with modem or Gigabit LAN (Ethernet) connection
- Integrated, user friendly web-server for browser access, and color touch display
- Integrated PLC (Programmable Logic Controller) functions to enhance modular flexibility
- Monitoring and controlling site infrastructure
- PSU control, temperature detector, humidity detector, grid/genset management, battery management, performance data, thermal control, access control, flood detector, smoke/ fire detector, intrusion detector, etc.
- Advanced battery management, supervision and testing methods
- Easy maintenance by pluggable architecture and an automatic backup on Micro SD card

EDM Energy
Data
Management

Optimize site performance with remote monitoring

With our hardware and software for Energy Data Management, you can collect and analyze data and on that basis make site energy improvements. The solutions allow you to, for example, optimize energy consumption according to regional ambient factors, and control the settings and performance of fans, air-con and other equipment - all through the management software Delta iDEAn.

Pairing Delta's EDM solution with its outstanding ORION controller, or 3rd party controllers, allows users to monitor and control sites remotely by PC or mobile App. iDEAn is the management software that operators need for alarms, power and assets. iDEAn supports network operators by improving energy consumption, reducing thefts and enhancing fault intervention.

You can preview critical infrastructure settings and prevent problems before they arise and optimize you site maintenance program. With real-time data analysis and

trend data analysis from iDEAn you can reduce the number of site visits and cut your maintenance costs.

The solution is saving operators in CAPEX and OPEX budgets as well as freeing network managers to handle higher value tasks.

iDEAn and Orion – a powerful combo that puts you in control.

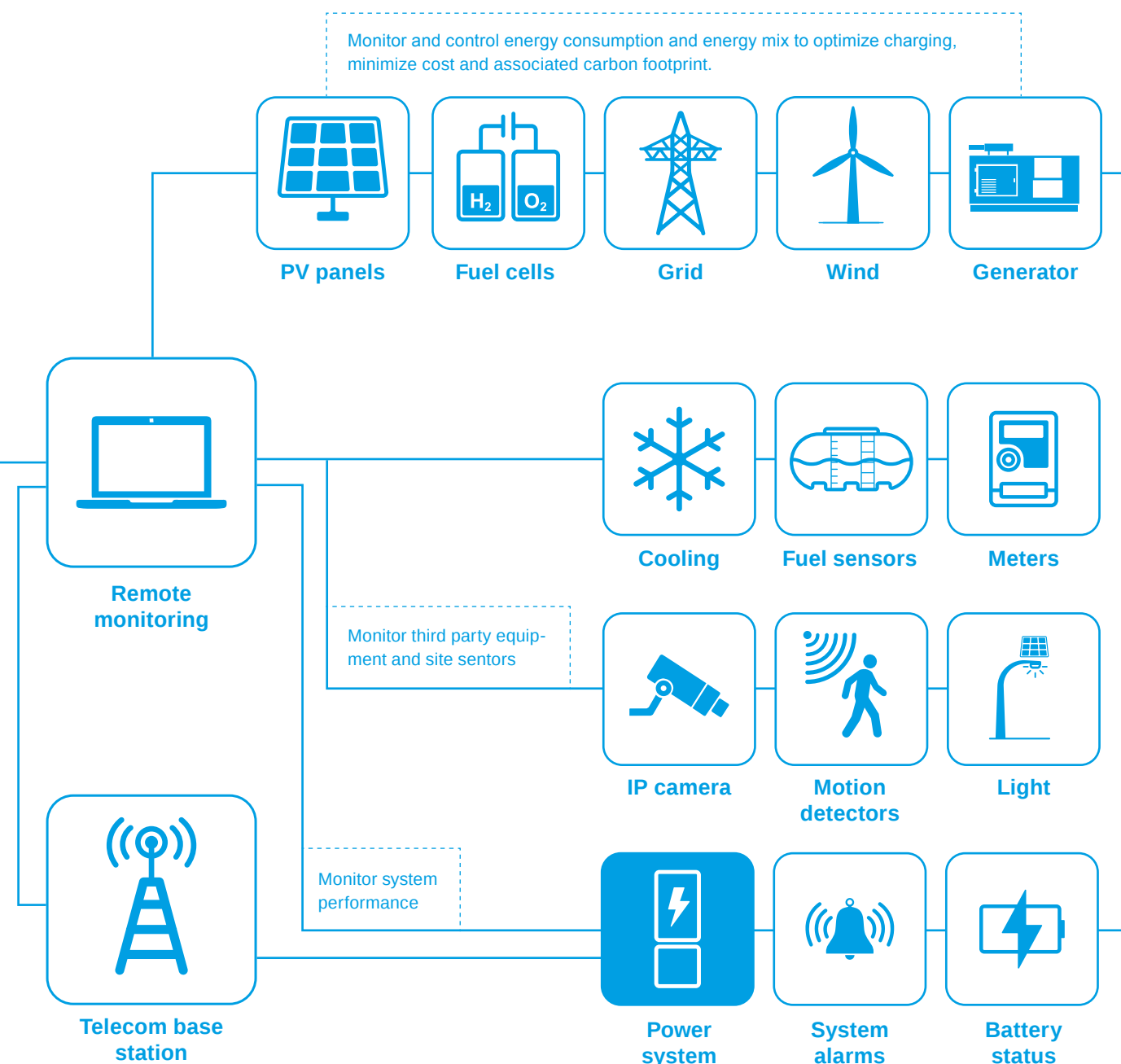
**IDEAn
Smart
Monitoring
Software**



EDM Energy
Data
Management

At the heart of infrastructure intelligence

Orion - Remote Monitoring and
Management Solutions



ORION is a single full site controller solution for any size system, supporting up to 128 rectifiers. ORION is easily expandable with CAN bus communication and a range of front-end modules.

ORION provides full site control, allowing management of all power system features. Monitoring reports and alarms are available via the specifically designed iPhone application, LAN, WLAN, SNMP or Modbus.

Battery management with capacity test and life length prediction as well as enhanced rectifier functions, including redundancy supervision, allow planning site visits in a cost-effective manner.

ORION is hot-pluggable, with easy configuration management and supports various languages. All common battery profiles are pre-configured. The controller supports both lead acid and lithium ion batteries.

Full control
the smart
way



TDC

Telecom
Data
Center

Stable, safe and secure power at all times

MCIS (Mission Critical Infrastructure Solutions)

With our wide range of Uninterruptible Power Supplies (UPS), we offer a competitive edge to businesses in need of first-rate power solutions. Delta UPS's are designed to ensure that companies can protect their mission critical applications by maintaining a steady flow of energy under adverse circumstances.

Power failures, surges, under and over voltage events account for more than an estimated 60 billion dollars in losses for the commercial sector. The largest share of the losses is due to customer outages.

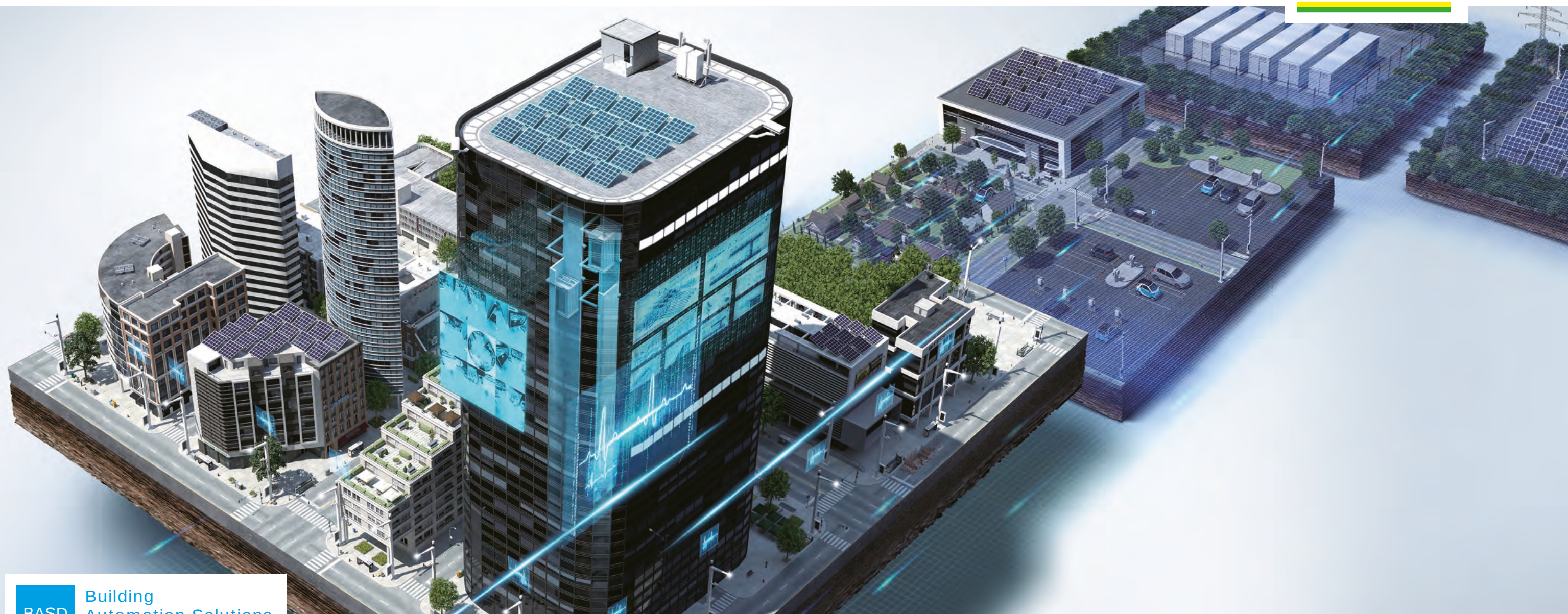
The industrial sector fares only slightly better with total estimated losses of over 30 bil dollars.

Delta MCIS is our concept for mission critical power supply solutions for applications, including UPS and data center solutions.

Comprehensive power protection starts with Delta and its fleet of UPS solutions.

Delta have developed a new generation of data center infrastructure solutions: InfraSuite. **Delta InfraSuite** includes power system, rack and accessories, precision cooling and environmental management system.

Delta
InfraSuite
solution for
Data centers



BASD

Building
Automation Solutions
Development

Smarter and greener buildings

By integrating telecom power solutions with building automation solutions (BASD), we make buildings smarter and greener. By establishing a common infrastructure that accommodates data exchange between telecom the fire alarm; heating, ventilation, security, access control and energy management systems, we make it possible to maintain all of these low-voltage systems from one central control point.

Advanced BASD technology can now make infrastructure integration a reality and can reduce costs and provide greater flexibility for commercial buildings.

We provide one-stop building automation system integration services including management, control, and monitoring of complex building electromechanical equipment, indoor environmental quality, access control and surveillance, lighting control, and fire alarms to help customers streamline their building projects.

Delta's Building Automation is constructed with IoT architecture, covering sensing, control, and management platforms. It integrates lighting, air conditioning, and surveillance to enhance energy efficiency and comfort.

Numerous low-voltage systems - one common infrastructure and management system

One-stop shopping for fully integrated buildings



Smarter. Greener. Together.

Delta EMEA Headquarters

Netherlands

Zandsteen 15, 2132 MZ Hoofddorp,
The Netherlands

email: info.europe@delta-es.com
Tel: +31 20 800 3 900

Delta Telecom Power - EMEA Locations

Czech Republic

Perucka 2482/7 120 00 Praha 2,
Czech Republic
Tel: +420 272 019 330

Dubai

Gate 7, 3rd Floor, Hamarain Centre,
Dubai, United Arab Emirates
Tel: +971 4 2690148

Finland

Juvan teollisuuskatu 15,
02921 Espoo, Finland
Tel: +358 9 849 660

France

ZI du bois Chaland 2 15 rue des
Pyrénées, Lisses 91056
Evry Cedex, France
Tel: +33 1 69 77 82 60

Germany

Coesterweg 45, D 59494 Soest,
Germany
Tel: +49 2921 987 0

Italy

Piazza Grazioli 18 00186
Roma, Italy
Tel: +39 06 69941209

Poland

23 Poleczki Str. 02 822
Warsaw, Poland
Tel: +48 22 335 26 00

Russia

Vereyskaya Plaza II, office 401
Vereyskaya str.17
121357 Moscow, Russia
Tel: +7 495 644 3240

Slovakia - assembly, testing and logistics center EMEA

Priemyselna ulica 4600/1, 018 41
Dubnica nad Vahom, Slovakia
Tel: +421 42 466 1111

South Africa

Tuinhof Office Park, Unit C401, Karee
Building, 265 West Avenue, Centurion,
0157 South Africa
Tel: +27 12 663 2714

Spain

Calle Luis I n° 60, Nave 1a P.I. de
Vallecas 28031 Madrid, Spain
Tel: + 34 91 223 74 20

Sweden

Annavägen 3, P.O. Box 3096
SE 350 33, Växjö, Sweden
Tel: +46 470 706 800

Switzerland

Freiburgstrasse 251, 3018 Bern
Bümpliz, Switzerland
Tel: +41 31 998 53 11

Turkey

Serifali Mevkii Barboros Bulvari Soylesi
Sok. No. 19 Y.Dudullu-Umraniye,
Istanbul, Turkey
Tel: +90 216 499 9910

United Kingdom

1 Redwood Court, Peel Park, East
Kilbride, G74 5PF, Scotland,
United Kingdom
Tel: +44-1355-588-888