

DeltaV™ Bulk Power Supplies



DeltaV 5 A, 10A, 20 A, 40 A Bulk Power Supplies.



DeltaV 20 A, 40 A and 80 A Bulk Power Supply Redundancy Modules.

- Easy to use
- Improved availability
- Flexible and cost effective
- Small footprint

Introduction

Power — your system won't operate without it. DeltaV™ Bulk Power Supplies offer you the *most efficient and reliable power solution* for your money. The DeltaV Bulk Power Supply suite provides power to the system electronics and to the field. This is all the power required for your DeltaV system.

Benefits

Easy to use. The DeltaV Bulk Power Supplies provide reliable 12 and 24 V DC power for your DeltaV system power and bussed field power needs. They mount easily onto a T-type DIN rail—*easy!*

Improved availability. Redundancy modules based on active MOSFET technology offer significantly higher efficiencies and lower voltage drop than traditional diode based modules, leading to less heat dissipation and better system reliability.

Flexible and cost effective. The DeltaV Bulk Power Supplies are flexible to use and cost effective, as external redundancy modules can be applied, for example, if load sharing is desired. Models are available both with and without conformal coating.









Small footprint. The DeltaV Bulk Power Supplies provide very competitive small footprints!

Hardware Specifications

Common Environmental Specifications	
Operational Temperature*	-40 to + 70°C (-40 to 158°F) with linear derating to 75% power from 60 to 70°C
Storage Temperature	-40 to + 85°C (-40 to 185°F)
Relative Humidity	5 to 95%, non-condensing
Protection Rating	IP20
Airborne Contaminants	ISA-571.04-1985 airborne contaminants class G3, Conformal coating**
Shock	10(g) RMS, three axes, 11 ms for each axis
Vibration	2.5(g) RMS, 10-2000 Hz (random); three axes for 20 minutes each - IEC 60068-2-6
Mounting	Mount only on horizontally-oriented DIN Rail, with label text right-side up.

*Operating any electronics at the higher end of its temperature range for long periods of time will shorten its expected lifetime, see **Effects of Heat and Airflow Inside an Enclosure White Paper** for more information.

** Only applies to conformal coated models, see ordering information for more details.

<p>Certificates and Compliances*</p>	<p> Listed, Ind. Control Equipment, E61379 - UL 508, CSA C22.2 No 107.1</p> <p> UL Recognized Component, ITE, E137632 - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition</p> <p> Low Voltage Directive - IEC/EN60950-1, 2nd Edition</p> <p> UL Recognized Component, Haz. Loc., E234790 - UL60079-15/CSA E60079-15 - Class I, Zone 2, AEx nA nC IIC, Ex nA nC IIC</p> <p> ATEX Directive - EN60079-0, EN60079-7, EN60079-15 -  II 3 G, Ex ec nC IIC Gc</p> <p>IECEX Certified - IEC 60079-0, IEC 60079-7, IEC 60079-15 - Ex ec nC IIC Gc - ExEAC TR CU 012/2011 Safety of Equipment intended for Explosive Atmospheres</p> <p> ABS Type Approval</p> <p> DNV-GL Type Approval</p>
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* Refer to user manual for installation requirements when used in hazardous locations.

DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 5 A

Description	DeltaV Bulk AC to 24 V DC, 5 A Power Supply Specifications
Output Voltage	24 V DC
Output Voltage Adjustment Range	23.5 - 28.5 V DC
Output Current	5A 1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 V DC
Output Power	120 W 180 W for 4 seconds minimum while holding voltage > 20 V DC
Output Ripple	Typ. < 50 mV peak-to-peak from 0Hz to 20MHz
Output Hold-up Time	>20 ms (Full load, 100-230 V AC Input @ Tamb=+25°C) to 95% output voltage
AC Input Voltage	100-240V nominal (85 – 264 V range)
AC Mains Frequency	43 - 67 Hz
AC Input Current	1.65 A at 85 V AC 0.55 A at 264 V AC
AC Power Factor Correction	Active power factor correction typ. 0.98 @ 115V AC/ 0.92 @ 230 V AC
AC Inrush Current	Typ. <3.7A at 120 V AC, < 7.4A at 230 V AC, measured at 25°C
AC Efficiency	> 88% typ.
AC Losses	14 W typ.
DC Input Voltage	100 – 340 V nominal (90 - 375 V range)
DC Input Current	1.65 at 90 V DC 0.55 A at 375 V DC

Input Protection	Internally fused, non-replaceable fuses. Note: The internal fuse is for an internal fault condition only. Shorts and overload will not cause the fuse to fail.
Alarm Relay Contact Rating	N.O. contact rated 200mA/50 V DC, Signal Active when Vout > 18.5 V DC +/-5%
Dimensions	Height: 123 mm (4.85 in) Width: 50 mm (1.97 in) Depth: 110 mm (4.36 in)
Weight	1.3 lb (0.6 kg)
Free Spacing	Above & Below 25 mm (0.98 in)
	Left & Right 10 mm (0.39 in)
	Front 15 mm (0.59 in)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG
Screw Torque	4.4 lb-in (50 N-cm)	6 lb-in (68 N-cm)	6 lb-in (68 N-cm)

DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 10 A

Description	DeltaV Bulk AC to 24 V DC, 10 A Power Supply Specifications
Output Voltage	24 V DC
Output Voltage Adjustment Range	23.5 - 28.5 V DC
Output Current	10A 1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 V DC
Output Power	240 W 360 W for 4 seconds minimum while holding voltage > 20 V DC
Output Ripple	Typ. < 50 mV peak-to-peak from 0Hz to 20MHz
Output Hold-up Time	>20 ms (Full load, 100-230 V AC Input @ Tamb=+25°C) to 95% output voltage
AC Input Voltage	100-240V nominal (85 – 264 V range)
AC Mains Frequency	43 - 67 Hz
AC Input Current	3.2 A at 85 V AC 1.0 A at 264 V AC
AC Power Factor Correction	Active power factor correction typ. 0.98 @ 115V AC/ 0.92 @ 230 V AC
AC Inrush Current	Typ. <12.7A at 120 V AC, < 24.8A at 230 V AC, measured at 25°C
AC Efficiency	> 90% typ.
AC Losses	24 W typ.
DC Input Voltage	100 – 340 V nominal (90 - 375 V range)
DC Input Current	3.2 at 90 V DC 1.0 A at 375 V DC

Input Protection	Internally fused, non-replaceable fuses. Note: The internal fuse is for an internal fault condition only. Shorts and overload will not cause the fuse to fail.
Alarm Relay Contact Rating	N.O. contact rated 200mA/50 V DC, Signal Active when Vout> 18.5 V DC +/-5%
Dimensions	Height: 123 mm (4.85 in) Width: 60 mm (2.36 in) Depth: 110 mm (4.36 in)
Weight	1.7 lb (0.8 kg)
Free Spacing	Above & Below 25 mm (0.98 in)
	Left & Right 10 mm (0.39 in)
	Front 15 mm (0.59 in)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG
Screw Torque	4.4 lb-in (50 N-cm)	6 lb-in (68 N-cm)	6 lb-in (68 N-cm)

DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 20 A

Description	DeltaV Bulk AC to 24 V DC, 20 A Power Supply Specifications
Output Voltage	24 V DC
Output Voltage Adjustment Range	23.5 - 28.5 V DC
Output Current	20A 1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 V DC
Output Power	480 W 720 W for 4 seconds minimum while holding voltage > 20 V DC
Output Ripple	Typ. < 100 mV peak-to-peak from 0Hz to 20MHz
Output Hold-up Time	>20 ms (Full load, 100-230 V AC Input @ Tamb=+25°C) to 95% output voltage
AC Input Voltage	100-240V nominal (85 – 264 V range)
AC Mains Frequency	43 - 67 Hz
AC Input Current	6 A at 85 V AC 3 A at 264 V AC
AC Power Factor Correction	Active power factor correction typ. 0.98 @ 115V AC/ 0.92 @ 230 V AC
AC Inrush Current	Typ. <5.8A at 120 V AC, < 11.5A at 230 V AC, measured at 25°C
AC Efficiency	> 92% typ.
AC Losses	38 W typ.
DC Input Voltage	100 – 250 V nominal (90 - 275 V range)
DC Input Current	6 A at 90 V DC 3 A at 275 V DC

Input Protection	Internally fused, non-replaceable fuses. Note: The internal fuse is for an internal fault condition only. Shorts and overload will not cause the fuse to fail.
Alarm Relay Contact Rating	N.O. contact rated 200mA/50 V DC, Signal Active when Vout > 18.5 V DC +/-5%
Dimensions	Height: 123 mm (4.85 in) Width: 87 mm (3.42 in) Depth: 127 mm (4.98 in)
Weight	3.0 lb (1.4 kg)
Free Spacing	Above & Below 40 mm (1.6 in)
	Left & Right 10 mm (0.39 in)
	Front 15 mm (0.59 in)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG
Screw Torque	4.4 lb-in (50 N-cm)	7 lb-in (80 N-cm)	7 lb-in (80 N-cm)

DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 40 A

Description	DeltaV Bulk AC to 24 V DC, 40 A Power Supply Specifications
Output Voltage	24 V DC
Output Voltage Adjustment Range	23.5 - 28.5 V DC
Output Current	40A 1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 V DC
Output Power	960 W 1,440 W for 4 seconds minimum while holding voltage > 20 V DC
Output Ripple	Typ. < 200 mV peak-to-peak from 0Hz to 20MHz
Output Hold-up Time	>20 ms (Full load, 100-230 V AC Input @ Tamb=+25°C) to 95% output voltage
AC Input Voltage	100-240V nominal (85 – 264 V range)
AC Mains Frequency	43 - 67 Hz
AC Input Current	12 A at 85 V AC 4 A at 264 V AC
AC Power Factor Correction	Active power factor correction typ. 0.98 @ 115V AC/ 0.92 @ 230V AC
AC Inrush Current	Typ. <5.8A at 120 V AC, < 11.5A at 230 V AC, measured at 25°C
AC Efficiency	> 93% typ.
AC Losses	67 W typ.
DC Input Voltage	120 – 340 V nominal (108 - 375 V range)
DC Input Current	12 A at 108 V DC 4 A at 375 V DC

Input Protection	Internally fused, non-replaceable fuses. Note: The internal fuse is for an internal fault condition only. Shorts and overload will not cause the fuse to fail.
Alarm Relay Contact Rating	N.O. contact rated 200mA/50 V DC, Signal Active when Vout > 18.5 V DC +/-5%
Dimensions	Height: 123 mm (4.85 in) Width: 180 mm (7.09 in) Depth: 122 mm (4.81 in)
Weight	6.0 lb (2.8 kg)
Free Spacing	Above & Below 25 mm (0.98 in) Left & Right 15 mm (0.59 in) Front 15 mm (0.59 in)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	3-6 mm ² 13-10 AWG	10.6-13 mm ² 7-6 AWG	0.14-2 mm ² 26-14 AWG
Screw Torque	4.4 lb-in (50 N-cm)	15.6 lb-in (176 N-cm)	1.7 lb-in (20 N-cm)

DeltaV Bulk Power Supply 100-240 V AC to 12 V DC, 15A

Description	DeltaV Bulk AC to 12 V DC, 15 A Power Supply Specifications
Output Voltage	12 V DC
Output Voltage Adjustment Range	11.5 - 15.5 V DC
Output Current	15A 1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 10 V DC
Output Power	180 W 270 W for 4 seconds minimum while holding voltage > 10 V DC
Output Ripple	Typ. < 100 mV peak-to-peak from 0Hz to 20MHz
Output Hold-up Time	>80ms (Full load, 100 V AC Input @ T =+25°C) to 95% output voltage
AC Input Voltage	100-240V nominal (85 – 264 V range)
AC Mains Frequency	43 - 67 Hz
AC Input Current	1.77 A at 85 V AC 0.9 A at 264 V AC
AC Power Factor Correction	Active power factor correction typ. 0.98 @ 115V AC/ 0.95 @ 230V AC
AC Inrush Current	Typ. <5.8A at 120 V AC, < 12.7A at 230 V AC, measured at 25°C
AC Efficiency	> 86.5% typ.
AC Losses	24 W typ.
DC Input Voltage	100 – 340 V nominal (90 - 375 V range)
DC Input Current	1.77 A at 90 V DC 0.9 A at 375 V DC

Input Protection	Internally fused, non-replaceable fuses. Note: The internal fuse is for an internal fault condition only. Shorts and overload will not cause the fuse to fail.
Alarm Relay Contact Rating	N.O. contact rated 200mA/50 V DC, Signal Active when Vout> 90% of output voltage
Dimensions	Height: 123 mm (4.85 in) Width: 60 mm (2.36 in) Depth: 110 mm (4.36 in)
Weight	1.76 lb (0.8 kg)
Free Spacing	Above & Below 25 mm (0.98 in) Left & Right 10 mm (0.39 in) Front 15 mm (0.59 in)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG	1.5-6 mm ² 16-10 AWG
Screw Torque	4.4 lb-in (50 N-cm)	6 lb-in (68 N-cm)	6 lb-in (68 N-cm)

DeltaV Bulk Power Supply Redundancy Module, 12 V DC to 28 V DC, 20 A

Description	Redundancy Module 12 to 28 V DC, 20 A Specifications
Input Voltage	12-28 V DC
Input Voltage Range	10.8-30.8 V DC
Nominal Input Current	2 x 10A, 1 x 20A (-40°C to +70°C) 2 x 12A, 1 x 24A (-40°C to +60°C) 2 x 12.5A, 1 x 25A (-40°C to +50°C) 2 x 13A, 1 x 26A (-40°C to +40°C)
Output Current	0-26 A continuous 26-50 A for 5 seconds 26 A continuous overload/short circuit
Input to Output Voltage Drop	0.2V Typical
Power Losses	0.5 mW at no load (typical) 0.64 mW at 2 x 5 A input (typical) 0.82 mW at 1 x 10 A input (typical) 2.08 W at 2 x 10 A input (typical)
Alarm Relay Contact Rating	N.O. DC OK Contact 60 V DC max @1A
Dimensions	Height: 123.2 mm (4.85 in) Width: 35 mm (1.38 in) Depth: 113.3 mm (4.46 in)
Weight	0.8 lb (0.36 kg)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	3.3-5.3 mm ² 12-10 AWG	8.4-13.3 mm ² 8-6 AWG	0.33-3.3 mm ² 22-12 AWG
Screw Torque	7 lb-inch (79.1 N-cm)	15.6 lb-in (176 N-cm)	4.4 lb-inch (49.7 N-cm)

DeltaV Bulk Power Supply Redundancy Module, 12 V DC to 28 V DC, 40 A

Description	Redundancy Module 12 to 28 V DC, 40 A Specifications
Input Voltage	12-28 V DC
Input Voltage Range	10.8-30.8 V DC
Nominal Input Current	2 x 20A, 1 x 40A (-40°C to +70°C) 2 x 24A, 1 x 48A (-40°C to +60°C) 2 x 25A, 1 x 50A (-40°C to +50°C) 2 x 26A, 1 x 52A (-40°C to +40°C)
Output Current	0-40 A continuous 40-65 A for 5 seconds 40 A continuous overload/short circuit
Input to Output Voltage Drop	0.2V Typical
Power Losses	0.5 mW at no load (typical) 2.08 W at 2x 10 A input (typical) 2.32 W at 1x 20 A input (typical) 7.68 W at 2x 20 A input (typical)
Alarm Relay Contact Rating	N.O. DC OK Contact 60 V DC max @1A
Dimensions	Height: 123.2 mm (4.85 in) Width: 35 mm (1.38 in) Depth: 113.3 mm (4.46 in)
Weight	0.8 lb (0.36 kg)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	3.3-5.3 mm ² 12-10 AWG	8.4-13.3 mm ² 8-6 AWG	0.33-3.3 mm ² 22-12 AWG
Screw Torque	7 lb-inch (79.1 N-cm)	15.6 lb-in (176 N-cm)	4.4 lb-inch (49.7 N-cm)

DeltaV Bulk Power Supply Redundancy Module, 12 V DC to 28 V DC, 80 A

Description	Redundancy Module 12 to 28 V DC, 80 A Specifications
Input Voltage	12-28 V DC
Input Voltage Range	10.8-30.8 V DC
Nominal Input Current	2 x 35A, 1 x 70A (-40°C to +70°C) 2 x 40A, 1 x 80A (-40°C to +60°C) 2 x 42.5A, 1 x 85A (-40°C to +50°C) 2 x 45A, 1 x 90A (-40°C to +40°C)
Output Current	0-80 A continuous 80-120 A for 5 seconds 80 A continuous overload/short circuit
Input to Output Voltage Drop	0.2V Typical
Power Losses	1.18 mW at no load (typical) 4.88 W at 2x 20 A input (typical) 6.08 W at 1x 40 A input (typical) 14.24 W at 2x 40 A input (typical)
Alarm Relay Contact Rating	N.O. DC OK Contact 60 V DC max @1A
Dimensions	Height: 123.2 mm (4.85 in) Width: 46 mm (1.81 in) Depth: 117 mm (4.61 in)
Weight	1.1 lb (0.48 kg)



Terminals and wiring

	Input Screw-Type Terminals	Output Screw-Type Terminals	DC-OK-Signal Screw-Type Terminals
Solid & Stranded Wire	8.4-13.3 mm ² 8-6 AWG	13.3-33.6 mm ² 6-2 AWG	0.33-3.3 mm ² 22-12 AWG
Screw Torque	15.6 lb-in (176 N-cm)	33.6 lb-in (380 N-cm)	4.4 lb-inch (49.7 N-cm)

Ordering Information

DeltaV Bulk Power Supplies	
Description	Model Number
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 5A	VE5138
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 10A	VE5123
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 20A	VE5126
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 40A	VE5128
DeltaV Bulk Power Supply 100-240 V AC to 12 V DC, 15A	VE5137
DeltaV Bulk Power Supply Redundancy Module,12-28V, 20A	VE5134
DeltaV Bulk Power Supply Redundancy Module,12-28V, 40A	VE5135
DeltaV Bulk Power Supply Redundancy Module,12-28V, 80A	VE5136
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 5A, conformal coating	VE5122
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 10A, conformal coating	VE5124
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 20A, conformal coating	VE5127
DeltaV Bulk Power Supply 100-240 V AC to 24 V DC, 40A, conformal coating	VE5129
DeltaV Bulk Power Supply 100-240 V AC to 12 V DC, 15A, 12V, conformal coating	VE5121
DeltaV Bulk Power Supply Redundancy Module,12-28V, 20A, conformal coating	VE5131
DeltaV Bulk Power Supply Redundancy Module,12-28V, 40A, conformal coating	VE5132
DeltaV Bulk Power Supply Redundancy Module,12-28V, 80A, conformal coating	VE5133

Emerson

North America, Latin America:

+1 800 833 8314 or

+1 512 832 3774

Asia Pacific:

+65 6777 8211

Europe, Middle East:

+41 41 768 6111

www.emerson.com/deltav

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