

P R B X

POWERBOX Defense Line
DAA/DAB/DAC Series
150W to several kW
DC/DC Conduction Cooled

Features

12, 24, 48, 72, 110VDC in
3 packages 150, 300W, 500W
Output from 3V3 to 48VDC
Input filtering EN55022 & transient protection
Reverse polarity protection
Several outputs, parallel or series operations up to several kW
MILSTD1275, 461, 810, 704 options
Safety IEC/EN60950-1, ROHS lead-free-solder compliant

Description

The DAA/DAB/DAC, very compact DC/DC converter in chassis mount format, incorporates input filtering, input and output protections, very robust mechanical mounting and connection, optional conformal coating, required in most of the severe environment for industrial, railways, defense type of applications. The converter provides high reliability, high efficiency, input-to-output isolation, soft start, overtemperature protection, input over/undervoltage lockout. The converters wide range of inputs are protected against surges and transients and EMI filtered. The outputs are continuously short-circuit proof. The 100°C baseplate operation allows operation in high temperature environment. The output can be configured in many different output voltages from 3V3 to 48VDC, can be put in series and parallel, others possibilities are even possible as semi-standard versions. Wide range of accessories like input & output Bus bars, N+1 oring diodes, parallel cables are available to simplify multi units assemblies. Military options (M) make it suitable for MIL STD compliance.

Options

Heatsink (H)	The unit is built as standard with a aluminum baseplate as described in the mechanical data. The converter can be delivered with a 15mm heatsink.
Ruggedized (M)	The unit can be ruggedized to meet MIL-STD810E, MIL-STD461E CE102. M option with 12 and 24Vin will comply with MIL STD 1275A on DAA and DAB only.
-40°C operation (T)	The thermal grade of the components are comply with low ambient temperature.
Conformal coating (V)	During manufacturing process components and pcb are covered with an acrylic coating to address high level of ambient humidity application.
IP-Enclosure (IP)	Built in IP65 sealed enclosure.



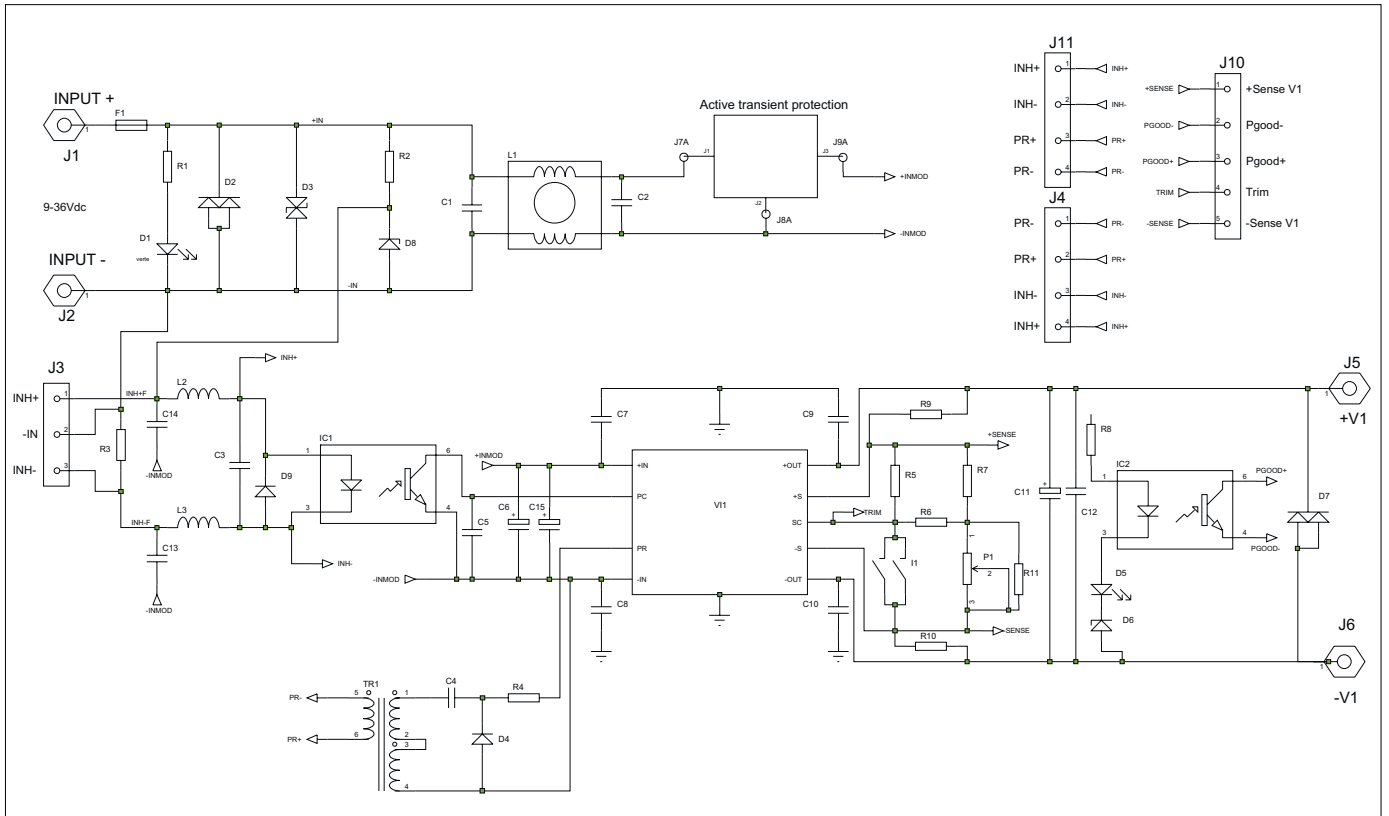
Input

Electrical input data	See table, page 3.
Input fuse	A fuse mounted inside the converter protects against damages in case of a failure. The fuse is not user-accessible.
Input transient protection	A VDR (Voltage Dependent Resistor) and a common mode input filter form an effective protection against input transients in severe environments like railways. When M option is defined for DAA500 and DAB300 Series, the unit is incorporating an active protection against high energy transient MIL STD 1275, DO160.
Input reverse polarity	A diode placed internally across the input will cause the fuse to blow in case of a reverse polarity of input voltage.

Accessories

Input parallel bus bar	The input bus bar simplifies the assembly of 2 or 3 units. It includes input extra capacitor footprints for application with long length from the source to the converter.
Output parallel bus bar	Available for 2up & 3up versions, it connects together the different positive outputs as well as negative output.
Output serial bus bar	It connects the negative of the first unit with the positive of the second to create high voltage configuration.
Output N+1 bus bar including diode	From 1up to 4up, this accessory puts in parallel the outputs with the addition of an oring diode mounted on an aluminium bar.
Inhibition and parallel cable	These 50mm cables allow unit to current share in parallel and allow the user to inhibit all units at the same time.

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Input Characteristics	Conditions	Model Number	12V		24V		48V		72V		110V		Units
			min	typ	max	min	typ	max	min	typ	max	min	
Operating input voltage			9	36	18	36	36	75	43	110	66	143	V
Input surge	<100ms			50		50		100		150		230	V
Undervoltage turn-on				8.9	17.5	17.9	35		42		64		V
Undervoltage turn-off				8.5	14.8	15.3	30		36.5		56		V
Overvoltage turn-off			36.2	40	36.3	39.7	75.7	82.5	111	121	155	170	V
Input current	Vin min	DAA		30		33		16.2		11		7.2	A
		DAB		21		16.5		8.2		7		3.6	A
		DAC		15		10		3.7		4.2		1.8	A
No load input power		DAA	8	17	8	14	8	16	11	17	11	15	W
		DAB	6	11	6	7.8	6	11	8	11	7	9	W
		DAC	3	10	3	7	3	5	5	7	3	5	W
Input capacitance	No inrush limiting circuit	DAA	440		440		44		20		20		uF
		DAB	270		270		44		10		10		uF
		DAC	220		220		44		10		10		uF
Start-up time		DAA	50		50		50		50		50		ms
		DAB	50		50		50		50		50		ms
		DAC	50		50		50		50		50		ms

Part Number Structure

D	A	A	24	-	12	200	W	-	HMTV
		Chassis	Input	Output		Power	Input Range	Options	
D: Defense Line	A: DC/DC	A: 225mm	24: 9-36VDC (W)	3V3: 3.3VDC	50: 50W	□: 2:1	□: None		
		150-500W	18-36VDC	5: 5VDC	75: 75W	W: 4:1	H: Heatsink		
		B: 140mm	48: 36-75VDC	6V5: 6.5VDC	100: 100W		M: Ruggedized		
		75-300W	72: 43-110VDC	8: 8VDC	125: 125W		T: -40°C operation		
		C: 100mm	110: 66-143VDC	12: 12VDC	150: 150W		V: Conformal coating		
		50-150W		15: 15VDC	175: 175W		IP: IP-enclosure		
				24: 24VDC	200: 200W				
				28: 28VDC	250: 250W				
				36: 36VDC	300: 300W				
				48: 48VDC	400: 400W				
			500: 500W						

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Output Data DAA Series

General conditions : 25°C ambient.

1) Recycle input voltage or inhibit to restart (>100ms off) - 2) Output voltage 95 % of nominal - 3) Output voltage < 250mV - 4) Nominal input, full load, 20MHz bandwidth - 5) No load to full load, nominal input

Model Number	Output Voltage		Output Power		Voltage Adjustment		Overvoltage Protection (1)			Output Current		Output Current Limit (2)			Short Circuit Current (3)			Output Noise (4)		Efficiency		Load Regulation (5)		
	V Nom	W Nom	Min	V Typ	Max	Min	V Typ	Max	Min	A Typ	Max	Min	A Typ	Max	Min	A Typ	Max	Min	mVpp Typ	Max	Min	% Typ	Max	% Typ
12Vin																								
DAA24-3V3150W-x	3V3	150	3.0		3.63	4.1	4.3	4.5	0	45	46.4	52	61.5	31.8	52	61.5	75	100			78		0.2	
DAA24-5175W-x	5V	175	4.5		5.5	6	6.25	6.5	0	35	35.7	40	49	24	40	49	170	350			76		0.2	
DAA24-6V5200W-x	6V5	200	5.85		7.15	7.7	8	8.3	0	30.5	31.4	35	41.6	21	35	41.6	170	350			78			
DAA24-8200W-x	8V	200	7.2		8.8	9.3	9.7	10.2	0	25	25.5	29	33.8	17.5	29	33.8	180	400			80			
DAA24-12200W-x	12V	200	10.8		13.2	13.7	14.3	14.9	0	16.6	17	19.2	22.6	11.6	19.2	22.6	150	350			80		0.2	
DAA24-15200W-x	15V	200	13.5		16.5	17	17.8	18.6	0	13.3	13.5	15.3	20.6	9.3	15.3	20.6	150	275			84		0.2	
DAA24-24200W-x	24V	200	21.6		26.4	27	28	29.2	0	8.33	8.4	9.6	11.3	5.8	9.6	11.3	220	400			85		0.2	
DAA24-28200W-x	28V	200	25.2		30.8	31	32.7	34	0	7.1	7.3	8.2	10	5	8.2	10	150	250			84		0.2	
DAA24-36200W-x	36V	200	32.4		39.6	40	42	43.5	0	5.5	5.7	7.7	8.1	3.4	7	8	150	280			82		0.2	
DAA24-48200W-x	48V	200	43.2		52.8	53.5	56	58	0	4.1	4.25	4.4	5.8	2.9	4.8	5.8	180	400			82		0.2	
24Vin																								
DAA24-3V3200-x	3V3	200	3.0		3.63	4.1	4.3	4.5	0	60	61.8	69	82	42	69	82	75	100			79		0.2	
DAA24-3V3264-x	3V3	264	3.0		3.63	4.1	4.3	4.5	0	80	81.6	92	108	56	92	108	75	100			78		0.2	
DAA24-5300-x	5V	300	4.5		5.5	6	6.25	6.5	0	60	61.2	69	81	42	69	81	100	150			84		0.2	
DAA24-5400-x	5V	400	4.5		5.5	6	6.25	6.5	0	80	81.6	92	104	56	92	104	100	190			84		0.2	
DAA24-6V5400-x	6V5	400	5.85		7.15	7.7	8	8.3	0	61	62.7	71	83	43	71	83	75	125			85		0.2	
DAA24-8300-x	8V	300	7.2		8.8	9.3	9.7	10.2	0	37.5	38.2	43	51	26	43	51	150	250			86		0.2	
DAA24-12300-x	12V	300	10.8		13.2	13.7	14.3	14.9	0	25	25.5	29	34	17.5	29	34	150	150			86		0.2	
DAA24-12400-x	12V	400	10.8		13.2	13.7	14.3	14.9	0	33.3	34	38	44	23	38	44	180	320			86		0.2	
DAA24-12500-x	12V	500	10.8		13.2	13.7	14.3	14.9	0	41.6	42.5	48	56	29	48	56	150	340			86		0.2	
DAA24-15300-x	15V	300	13.5		16.5	17	17.8	18.6	0	20	20.5	23	27	14	23	27	120	200			86		0.2	
DAA24-15400-x	15V	400	13.5		16.5	17	17.8	18.6	0	26.6	27	31	35	18	31	35	100	150			87		0.2	
DAA24-24300-x	24V	300	21.6		26.4	27	28	29.2	0	12.5	12.7	14.4	17	8.8	14.4	17	75	100			87.5		0.2	
DAA24-24400-x	24V	400	21.6		26.4	27	28	29.2	0	16.6	17	19	21.7	2.2	19	21.7	80	100			87.5		0.2	
DAA24-24500-x	24V	500	21.6		26.4	27	28	29.2	0	20.8	21.3	24	28	14	24	28	150	250			87.5		0.2	
DAA24-28300-x	28V	300	25.2		30.8	31	32.7	34	0	10.7	10.9	12.3	14.5	3	12.3	14.5	75	125			87		0.2	
DAA24-28400-x	28V	400	25.2		30.8	31	32.7	34	0	14.2	14.5	16	19.4	10	16.4	19.4	120	200			87		0.2	
DAA24-28500-x	28V	500	25.2		30.8	31	32.7	34	0	17.9	18.3	20.6	24.2	12.5	20.6	24.2	125	215			87		0.2	
DAA24-36300-x	36V	300	32.4		39.6	40	42	43.5	0	8.33	8.5	9.6	11.3	5.8	9.6	11.3	75	100			87.5		0.2	
DAA24-36400-x	36V	400	32.4		39.6	40	42	43.5	0	11.1	11.3	12.8	15	7.8	12.8	15	75	150			87.5		0.2	
DAA24-48300-x	48V	300	43.2		52.8	53.5	56	58	0	6.25	6.4	7.2	8.5	4.3	7.2	8.5	100	225			86.5		0.2	
DAA24-48400-x	48V	400	43.2		52.8	53.5	56	58	0	8.33	8.5	9.6	11.3	4.8	9.6	11.3	100	200			86		0.2	
48Vin																								
DAA48-3V3264-x	3V3	264	3.0		3.63	4.1	4.3	4.5	0	80	81.6	94	108	56	92	112	75	100			80		0.2	
DAA48-5400-x	5V	400	4.5		5.5	6	6.25	6.5	0	80	81.6	92	104	8	92	104	75	100			84		0.2	
DAA48-8400-x	8V	400	7.2		8.8	9.3	9.7	10.2	0	50	51	57	67	35	57	67	150	310			84			
DAA48-12500-x	12V	500	10.8		13.2	13.7	14.3	14.9	0	41.6	42.5	48	54	29	48	54	150	250			87		0.2	
DAA48-15500-x	15V	500	13.5		16.5	17	17.8	18.6	0	33.3	34	38	45	3.8	38	45	75	100			88.5		0.2	
DAA48-24500-x	24V	500	21.6		26.4	27	28	29.2	0	20.8	21.3	23.4	25.5	14.6	23.4	25.1	75	100			87		0.2	
DAA48-28500-x	28V	500	25.2		30.8	31	32.7	34	0	17.8	18.2	20.6	23.3	12.5	20.6	23.3	75	100			88.5		0.2	
DAA48-36500-x	36V	500	32.4		39.6	40	42	43.5	0	13.9	14.1	16	19	9.7	16	19	100	150			86		0.2	
DAA48-48500-x	48V	500	43.2		52.8	53.5	56	58	0	10.4	10.6	12	13.6	6.2	12	14.8	150	175			89		0.2	
72Vin																								
DAA72-3V3264-x	3V3	264	3.0		3.63	4.1	4.3	4.5		80	81.6	92	108	56	92	108	75	120			80		0.2	
DAA72-5300-x	5V	300	4.5		5.5	6	6.25	6.5		60	61.2	69	81	22	69	81	75	120			84		0.2	
DAA72-8300-x	8V	300	7.2		8.8	9.3	9.7	10.2		37.5	38.2	43	51	26	43	51	150	150			84		0.2	
DAA72-12400-x	12V	400	10.8		13.2	13.7	14.3	14.9		33.3	33.9	38	45	23	38	45	180	400			86		0.2	
DAA72-15400-x	15V	400	13.5		16.5	17	17.8	18.6		26.7	27.2	30.7	36.2	18	30.7	36.2	200	375			86		0.2	
DAA72-24400-x	24V	400	21.6		26.4	27	28	29.2		16.6	17	19	23.5	11.5	19	22.6	150	200			87		0.2	
DAA72-28400-x	28V	400	25.2		30.8	31	32.7	34		14.2	14.5	16.4	19.5	10	16.4	19.4	150	380			88		0.2	
DAA72-36400-x	36V	400	32.4		39.6	40	42	43.5		11.1	11.3	12.8	15	7.7	12.8	15	120	250			87		0.2	
DAA72-48400-x	48V	400	43.2		52.8	53.5	56	58		8.33	8.4	9.5	11.3	5.8	9.5	11.3	150	300			87		0.2	
110Vin																								
DAA110-3V3150-x	3V3	150	3.0		3.63	4.1	4.3	4.5		45	46.4	52	61.5	31.8	52	61.5	75	100			81		0.2	
DAA110-3V3200-x	3V3	200	3.0		3.63	4.1	4.3	4.5		60	61.8	69	82	42	69	82	75	110			80		0.2	
DAA110-5200-x	5V	200	4.5		5.5	6	6.25	6.5		40	40.8	46	54	28	46	54	120	200			85		0.2	
DAA110-5300-x	5V	300	4.5		5.5	6	6.25	6.5		60	61.2	69	81	42	69	81	75	120			84		0.2	
DAA110-8200-x	8V	200	7.2		8.8	9.3	9.7	10.2		25	25.5	29	34	6	29	34	150	275			87		0.2	
DAA110-8300-x	8V	300	7.2		8.8	9.3	9.7	10.2		37.5	38.2	43	51	26	43	51	150	250			86		0.2	
DAA110-12300-x	12V	300	10.8		13.2	13.7	14.3	14.9		25	25.5	28.8	33.8	17.5	28.8	33.8	150	300			86		0.2	
DAA110-12400-x	12V	400	10.8		13.2	13.7	14.3	14.9		33.3	34	38.3	45	23	38.3	45	150	300			85		0.2	
DAA110-15300-x	15V	300	13.5		16.5	17	17.8	18.6		20	20.4	23	27	14	23	27	150	315			87		0.2	
DAA110-15400-x	15V	400	13.5		16.5	17	17.8	18.6		26.6	27.2	30.7	36.1	10	30.7	36.1	120	230			87		0.2	
DAA110-24300-x	24V	300	21.6		26.4	27	28	29.2		12.5	12.7	14.4	17	8.7	14.4	17	130	240			88		0.2	
DAA110-24400-x	24V	400	21.6		26.4	27	28	29.2		16.6	17	19	22.6	11.5	19	22.5	100	175			86		0.2	
DAA110-28300-x	28V	300	25.2		30.8	31	32.7	34		10.7	10.9	12.3	14.5	7.5	12.3	14.5	150	280			87		0.2	
DAA110-28400-x	28V	400	25.2		30.8	31	32.7	34		14.2	14.5	16.5	20	10	16.5	20	120	200						

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Output Data DAB Series

General conditions : 25°C ambient.

1) Recycle input voltage or inhibit to restart (>100ms off) - 2) Output voltage 95 % of nominal - 3) Output voltage < 250mV - 4) Nominal input, full load, 20MHz bandwidth - 5) No load to full load, nominal input

Model Number	Output Voltage		Voltage Adjustment			Overvoltage Protection (1)			Output Current			Output Current Limit (2)			Short Circuit Current (3)			Output Noise (4)			Efficiency			Load Regulation (5)
	V Nom	W Nom	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Typ
12Vin																								
DAB24-3V375W-x	3V3	75	3.0		3.63	4.1	4.3	4.5	0		22.7	23.1	26	31	15.5	26	31	60	100		77			0.2
DAB24-575W-x	5V	75	4.5		5.5	6	6.25	6.5	0		15	15.3	17.5	20.5	10.5	17.5	20.5	150	300		73			0.2
DAB24-12125W-x	12V	125	10.8		13.2	13.7	14.3	14.9	0		10.4	10.6	12	14.1	7.3	12	14.1	150	350		80			0.2
DAB24-15150W-x	15V	150	13.5		16.5	17	17.8	18.6	0		10	10.2	11.5	13.5	7	11.5	13.5	200	350		80			0.2
DAB24-24150W-x	24V	150	21.6		26.4	27	28	29.2	0		6.25	6.4	7.2	9.3	4.4	7.2	9.3	250	400		80			0.2
DAB24-28150W-x	28V	150	25.2		30.8	31	32.7	34	0		5.3	5.4	6.1	7.3	3.7	6.2	7.3	200	400		80			0.2
DAB24-36-150W-x	36V	150	32.4		39.6	40	42	43.5	0		4.1	4.2	4.8	5.7	2.9	4.8	5.7	200	400		79			0.2
DAB24-48150W-x	48V	150	43.2		52.8	53.5	56	58	0		3.1	3.2	3.6	4.3	2.2	3.6	4.3	200	400		81			0.2
24Vin																								
DAB24-3V3100-x	3V3	100	3.0		3.63	4.1	4.3	4.5	0		30	30.9	35	41	21	35	41	75	100		80			0.2
DAB24-3V3150-x	3V3	150	3.0		3.63	4.1	4.3	4.5	0		45	46.4	52	61	32	52	61	100	200		80			0.2
DAB24-5150-x	5V	150	4.5		5.5	6	6.25	6.5	0		30	30.6	34	40	5.8	34	40	50	75		84			0.2
DAB24-5200-x	5V	200	4.5		5.5	6	6.25	6.5	0		40	40.8	52	55	28	52	62	80	125		83			0.2
DAB24-6V5100-x	6V5	200	5.85		7.15	7.7	8	8.3	0		30.5	31.4	35	41	21	35	41	150	230		84			0.2
DAB24-8200-x	8V	200	7.2		8.8	9.3	9.7	10.2	0		25	25.5	29	34	17	29	34	150	250		86			0.2
DAB24-12150-x	12V	150	10.8		13.2	13.7	14.3	14.9	0		12.5	12.8	14.4	17	8.5	14.4	17	100	200		87			0.2
DAB24-12200-x	12V	200	10.8		13.2	13.7	14.3	14.9	0		16.6	17	19	23	11.5	19	23	250	400		85			0.2
DAB24-12250-x	12V	250	10.8		13.2	13.7	14.3	14.9	0		20.8	21.3	24	29	14.5	24	29	150	250		86			0.2
DAB24-15150-x	15V	150	13.5		16.5	17	17.8	18.6	0		10	10.2	11.5	13.5	7	11.5	13.5	150	250		87			0.2
DAB24-15200-x	15V	200	13.5		16.5	17	17.8	18.6	0		13.3	13.5	16	17.3	13.5	16	17.3	150	300		86			0.2
DAB24-24150-x	24V	150	21.6		26.4	27	28	29.2	0		6.25	6.4	7.2	8.4	3.7	7.2	8.4	120	250		87			0.2
DAB24-24200-x	24V	200	21.6		26.4	27	28	29.2	0		8.33	8.5	9.8	11.5	5.9	9.8	11.5	150	250		87			0.2
DAB24-24250-x	24V	250	21.6		26.4	27	28	29.2	0		10.4	10.6	12	14.1	7	12	14.1	150	300		86			0.2
DAB24-28150-x	28V	150	25.2		30.8	31	32.7	34	0		5.3	5.5	6.1	7.2	3.7	6.1	7.2	150	250		87			0.2
DAB24-28200-x	28V	200	25.2		30.8	31	32.7	34	0		7.1	7.3	8.2	9.6	5	8.2	9.6	150	225		86			0.2
DAB24-28250-x	28V	250	25.2		30.8	31	32.7	34	0		8.9	9.1	10.3	12.1	6.3	10.3	12.1	100	175		88			0.2
DAB24-36150-x	36V	150	32.4		39.6	40	42	43.5	0		4.17	4.25	4.8	5.7	2.9	4.8	5.7	120	250		87			0.2
DAB24-36200-x	36V	200	32.4		39.6	40	42	43.5	0		5.5	5.67	6.4	7.5	4	6.4	7.5	120	250		87			0.2
DAB24-48150-x	48V	150	43.2		52.8	53.5	56	58	0		3.1	3.2	3.6	4.2	2.2	3.6	4.2	100	150		87			0.2
DAB24-48200-x	48V	200	43.2		52.8	53.5	56	58	0		4.1	4.25	4.8	5.7	2.9	4.8	5.7	150	250		87			0.2
DAB24-48250-x	48V	250	43.2		52.8	53.5	56	58	0		5.2	5.3	6	7	3.6	6	7	150	250		88			0.2
48Vin																								
DAB48-3V3150-x	3V3	150	3.0		3.63	4.1	4.3	4.5	0		45	46.4	52	61	32	52	61	75	100		81			0.2
DAB48-5200-x	5V	200	4.5		5.5	6	6.25	6.5	0		40	41	46	52	28	46	56	75	120		84			0.2
DAB48-12250-x	12V	250	10.8		13.2	13.7	14.3	14.9	0		20.8	21.3	24	27.3	14.6	24	26.2	200	400		86			0.2
DAB48-15250-x	15V	250	13.5		16.5	17	17.8	18.6	0		16.6	17	19	22	11.5	19	22	120	200		88			0.2
DAB48-24250-x	24V	250	21.6		26.4	27	28	29.2	0		10.4	10.7	12	13.7	7.3	12	13.7	150	275		88			0.2
DAB48-28250-x	28V	250	25.2		30.8	31	32.7	34	0		9	9.1	10.3	12.1	5	10.3	12.1	120	220		88.5			0.2
DAB48-36250-x	36V	250	32.4		39.6	40	42	43.5	0		6.9	7.1	7.9	9.4	4.8	8	9.4	150	315		88.5			0.2
DAB48-48250-x	48V	250	43.2		52.8	53.5	56	58	0		5.2	5.3	6	7.3	2.1	6	7.3	100	180		89			0.2
DAB48-48300-x	48V	300	43.2		52.8	53.5	56	58	0		6.25	6.4	7.2	8.4	4.5	7.2	8.4	80	150		89			0.2
72Vin																								
DAB72-3V3100-x	3V3	100	3.0		3.63	4.1	4.3	4.5			30.3	30.9	35	41	21	35	41	120	150		81			0.2
DAB72-5150-x	5V	150	4.5		5.5	6	6.25	6.5			30	30.9	35	41	21	35	41	100	230		84			0.2
DAB72-8150-x	8V	150	7.2		8.8	9.3	9.7	10.2			18.7	19.1	21.6	25.5	5	21	25.5	150	220		84.5			0.2
DAB72-12250-x	12V	250	10.8		13.2	13.7	14.3	14.9			20.8	21.3	24	28	14.5	24	28	150	350		86			0.2
DAB72-15250-x	15V	250	13.5		16.5	17	17.8	18.6			16.6	17	19	22.6	11.5	19	22.6	250	400		86			0.2
DAB72-24250-x	24V	250	21.6		26.4	27	28	29.2			10.4	10.6	12	14.4	7	12	14.1	150	270		86			0.2
DAB72-28250-x	28V	250	25.2		30.8	31	32.7	34			8.9	9.1	10.3	12.1	6.3	10.3	12.1	150	330		88			0.2
DAB72-36250-x	36V	250	32.4		39.6	40	42	43.5			6.9	7.1	8.2	9.4	5	8.2	9.4	150	250		87			0.2
DAB72-48250-x	48V	250	43.2		52.8	53.5	56	58			5.2	5.3	6	7.1	3.6	6	7.1	150	250		86			0.2
110Vin																								
DAB110-3V375-x	3V3	75	3.0		3.63	4.1	4.3	4.5			22.7	23.1	26	30.7	16	26	30.7	75	100		81			0.2
DAB110-3V3100-x	3V3	100	3.0		3.63	4.1	4.3	4.5			30.3	30.9	35	41	21	35	41	75	100		81			0.2
DAB110-5100-x	5V	100	4.5		5.5	6	6.25	6.5			20	20.4	23	27.3	14	23	27	150	300		80			0.2
DAB110-5150-x	5V	150	4.5		5.5	6	6.25	6.5			30	30.6	34	41	21	35	41	75	120		84			0.2
DAB110-8150-x	8V	150	7.2		8.8	9.3	9.7	10.2			18.7	19.1	21.6	25.5	13.1	21.6	25.5	120	250		85			0.2
DAB110-12150-x	12V	150	10.8		13.2	13.7	14.3	14.9			12.5	12.7	14.4	17	8.7	14.4	17	100	190		87			

POWERBOX Defense Line
DAA/DAB/DAC Series
150W to several kW
DC/DC Conduction Cooled

Output Data DAC Series

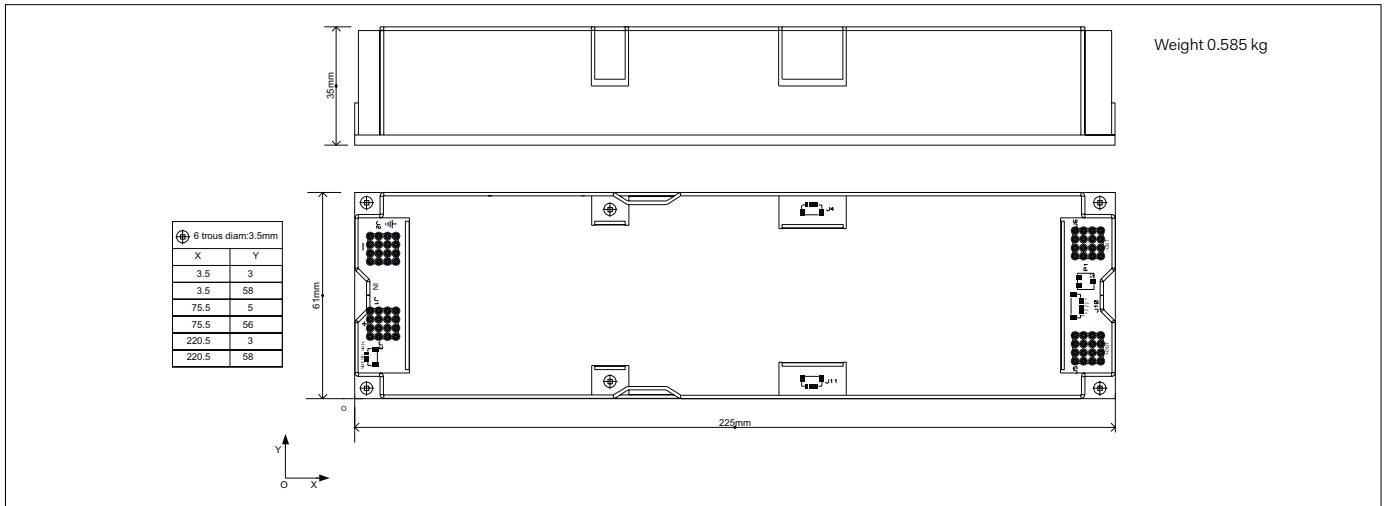
General conditions : 25°C ambient.

1) Recycle input voltage or inhibit to restart (>100ms off) - 2) Output voltage 95 % of nominal - 3) Output voltage < 250mV - 4) Nominal input, full load, 20MHz bandwidth - 5) No load to full load, nominal input

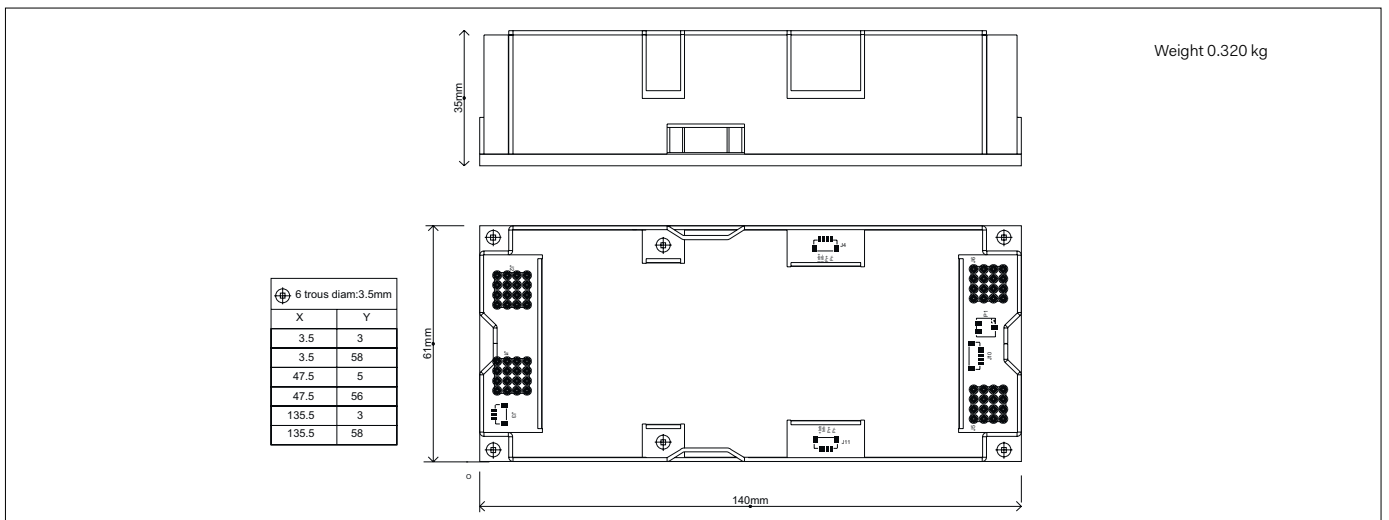
Model Number	Output Voltage		Voltage Adjustment			Overvoltage Protection (1)			Output Current			Output Current Limit (2)			Short Circuit Current (3)			Output Noise (4)			Efficiency			Load Regulation (5)	
	V Nom	W Nom	Min	V Typ	Max	Min	V Typ	Max	Min	A Typ	Max	Min	A Typ	Max	Min	A Typ	Max	Min	mVpp Typ	Max	Min	% Typ	Max	% Typ	
12Vin																									
DAC24-3V350W-x	3V3	50	3.0		3.63	4.1	4.3	4.5	0	15.1		15.5	17.5	23.4	10.6	17.5	20.6		100	225		70.5			0.2
DAC24-550W-x	5V	50	4.5		5.5	6	6.25	6.5	0	10		10	11.5	13.5	7	11.5	13.5		100	160		76			0.2
DAC24-12100W-x	12V	100	10.8		13.2	13.7	14.3	14.9	0	8.3		8.4	9.5	11.3	5.8	9.6	11.3		125	250		79			0.2
DAC24-15100W-x	15V	100	13.5		16.5	17	17.8	18.6	0	6.7		6.8	7.8	9.1	4.6	7.8	9.1		125	250		79.5			0.2
DAC24-24100W-x	24V	100	21.6		26.4	27	28	29.2	0	4.1		4.2	4.8	5.7	2.9	4.8	5.43		110	225		81.5			0.2
DAC24-28100W-x	28V	100	25.2		30.8	31	32.7	34	0	3.6		3.6	4.15	5.4	2.5	4.15	5.4		100	200		79.5			0.2
DAC24-36100W-x	36V	100	32.4		39.6	40	42	43.5	0	2.8		2.85	3.2	3.8	1.9	3.2	3.8		100	225		80			0.2
DAC24-48100W-x	48V	100	43.2		52.8	53.5	56	58	0	2.1		2.12	2.4	3.4	1.45	2.4	3.4		90	157		79			0.2
24Vin																									
DAC24-3V350-x	3V3	50	3.0		3.63	4.1	4.3	4.5	0	15.1		15.5	17.5	21	10.5	17.5	20.6		120	300		78			0.2
DAC24-3V375-x	3V3	75	3.0		3.63	4.1	4.3	4.5	0	22.7		23	26	31	15.9	26	31		100	175		78			0.2
DAC24-550-x	5V	50	4.5		5.5	6	6.25	6.5	0	10		10.2	11.5	13.5	8	11.5	13.5		90	100		83			0.2
DAC24-5100-x	5V	100	4.5		5.5	6	6.25	6.5	0	20		20.3	23	27	2.5	23	27		90	125		83			0.2
DAC24-5125-x	5V	125	4.5		5.5	6	6.25	6.5	0	25		25.5	29	34	17	29	34		100	190		83			0.2
DAC24-8100-x	8V	100	7.2		8.8	9.3	9.7	10.2	0	12.5		12.7	14.5	17	8.5	14.5	17		100	185		85			0.2
DAC24-1250-x	12V	50	10.8		13.2	13.7	14.3	14.9	0	4.1		4.2	4.8	5.7	2.9	4.8	5.7		80	100		87			0.2
DAC24-12100-x	12V	100	10.8		13.2	13.7	14.3	14.9	0	8.3		8.5	9.5	11	1.1	9.5	11		150	260		85			0.2
DAC24-12150-x	12V	150	10.8		13.2	13.7	14.3	14.9	0	12.5		12.8	14.4	17	8.5	14.4	17		120	215		87			0.2
DAC24-1550-x	15V	50	13.5		16.5	17	17.8	18.6	0	3.3		3.4	3.8	4.5	2.33	3.8	4.5		90	200		87			0.2
DAC24-15100-x	15V	100	13.5		16.5	17	17.8	18.6	0	6.7		6.8	7.7	8.7	4.7	7.7	8.7		75	125		88			0.2
DAC24-15150-x	15V	150	13.5		16.5	17	17.8	18.6	0	10		10.2	11.5	13.5	7	11.5	13.5		100	190		88			0.2
DAC24-2450-x	24V	50	21.6		26.4	27	28	29.2	0	2.1		2.12	2.4	2.8	1.45	2.4	2.8		75	100		88			0.2
DAC24-24100-x	24V	100	21.6		26.4	27	28	29.2	0	4.1		4.25	4.8	5.7	2.9	4.8	5.7		75	100		87			0.2
DAC24-24150-x	24V	150	21.6		26.4	27	28	29.2	0	6.3		6.4	7.2	8.4	4.4	7.2	8.4		75	100		87			0.2
DAC24-2850-x	28V	50	25.2		30.8	31	32.7	34	0	1.78		1.8	2.1	2.4	1.25	2.1	2.4		75	100		88			0.2
DAC24-28100-x	28V	100	25.2		30.8	31	32.7	34	0	3.5		3.6	4.15	5	0.5	4.1	5		75	100		88			0.2
DAC24-28150-x	28V	150	25.2		30.8	31	32.7	34	0	5.4		5.5	6.2	7.2	3.8	6.2	7.2		75	150		88			0.2
DAC24-3650-x	36V	50	32.4		39.6	40	42	43.5	0	1.39		1.42	1.6	1.9	0.9	1.6	1.9		50	75		84			0.2
DAC24-36100-x	36V	100	32.4		39.6	40	42	43.5	0	2.8		2.85	3.2	3.8	1.9	3.2	3.8		50	75		86			0.2
DAC24-4850-x	48V	50	43.2		52.8	53.5	56	58	0	1.05		1.06	1.2	1.5	0.7	1.2	1.5		80	150		86			0.2
DAC24-48100-x	48V	100	43.2		52.8	53.5	56	58	0	2.1		2.15	2.4	2.9	1.45	2.4	2.9		80	150		86			0.2
DAC24-48150-x	48V	150	43.2		52.8	53.5	56	58	0	3.1		3.2	3.8	4.2	2.3	3.8	4.2		75	150		88			0.2
48Vin																									
DAC48-3V350-x	3V3	50	3.0		3.63	4.1	4.3	4.5	0	15.1		15.5	17.5	21	10.5	17.5	21		75	100		79			0.2
DAC48-3V375-x	3V3	75	3.0		3.63	4.1	4.3	4.5	0	22.7		22.9	26	32	15.9	26	32		75	100		80			0.2
DAC48-550-x	5V	50	4.5		5.5	6	6.25	6.5	0	10		10.2	11.5	13.5	7	11.5	13.5		75	120		84			0.2
DAC48-575-x	5V	75	4.5		5.5	6	6.25	6.5	0	15		15.3	17.5	20	10.5	17.5	20.6		75	100		82			0.2
DAC48-5100-x	5V	100	4.5		5.5	6	6.25	6.5	0	20		20.5	23	26	14	23	26		70	100		84			0.2
DAC48-8100-x	8V	100	7.2		8.8	9.3	9.7	10.2	0	12.5		12.7	14.4	17.5	9.7	14.4	17		100	150		87			0.2
DAC48-8150-x	8V	150	7.2		8.8	9.3	9.7	10.2	0	18.7		19.1	21.5	26	13	21	26		100	175		86			0.2
DAC48-1275-x	12V	75	10.8		13.2	13.7	14.3	14.9	0	6.25		6.35	7.2	8.4	4.4	7.2	8.4		100	200		85			0.2
DAC48-12150-x	12V	150	10.8		13.2	13.7	14.3	14.9	0	12.5		12.7	14.4	17	9.7	14.4	17		100	225		87			0.2
DAC48-1575-x	15V	75	13.5		16.5	17	17.8	18.6	0	5		5.1	5.7	6.8	3.5	5.7	6.8		70	100		88			0.2
DAC48-15150-x	15V	150	13.5		16.5	17	17.8	18.6	0	10		10.2	11.5	13.5	7	11.5	13.5		75	150		87			0.2
DAC48-2475-x	24V	75	21.6		26.4	27	28	29.2	0	3.1		3.2	3.6	4.3	0.5	3.6	4.3		50	75		87			0.2
DAC48-24150-x	24V	150	21.6		26.4	27	28	29.2	0	6.25		6.37	7.2	9.1	4.4	7.2	9.1		120	200		88			0.2
DAC48-2875-x	28V	75	25.2		30.8	31	32.7	34	0	2.6		2.7	3.1	3.6	1.9	3.1	3.6		120	200		88			0.2
DAC48-28150-x	28V	150	25.2		30.8	31	32.7	34	0	5.3		5.4	6.1	7	3.7	6.2	7		75	140		88			0.2
DAC48-36150-x	36V	150	32.4		39.6	40	42	43.5	0	4.1		4.2	4.8	5.7	2.9	4.8	5.7		80	120		87			0.2
DAC48-4875-x	48V	75	43.2		52.8	53.5	56	58	0	1.55		1.6	1.8	2.1	1.1	1.8	2.1		100	175		87			0.2
DAC48-48150-x	48V	150	43.2		52.8	53.5	56	58	0	3.1		3.2	3.6	4.5	2.2	3.6	4.5		75	120		88			0.2
72Vin																									
DAC72-3V375-x	3V3	75	3.0		3.63	4.1	4.3	4.5		22.7		23.1	26	31	15.9	26	31		75	130		81			0.2
DAC72-550-x	5V	100	4.5		5.5	6	6.25	6.5		20		20.4	23	27	14	23	27		75	150		81			0.2
DAC72-8100-x	8V	100	7.2		8.8	9.3	9.7	10.2		12.5		12.7	14.4	17	8.7	14.4	17		120	180		82.5			0.2
DAC72-12150-x	12V	150	10.8		13.2	13.7	14.3	14.9		12.5		12.7	14.4	17	8.7	14.4</									

POWERBOX Defense Line
 DAA/DAB/DAC Series
 150W to several kW
 DC/DC Conduction Cooled
 Manual

Mechanical DAA Series



Mechanical DAB Series



Mechanical DAC Series

