Dinverter 2B to Commander SE Retrofit Guide

Commander SE is the latest product in the family of AC inverters from Control Techniques, designed to meet today's customer needs of simple installation and ease of use, yet also providing a flexible solution to a diverse range of applications.

This guide is part of a series to provide you with an easy way of retrofitting existing Control Techniques General Purpose type Drives with Commander SE.

Due to the potential flexibility of Control Techniques Drives, these retrofit guides only show the Drives in their default terminal and parameter states.

The Commander SE has 3 levels of parameter menus. Level 1 has only 10 parameters which quickly lets you access these parameters most frequently required for simple applications.

Level 2 gives access to additional parameters for increased flexibility.

Both Level 1 and Level 2 are accessible via the keypad and display on the Commander SE.

Level 3 (Extended Menu) parameters gives maximum flexibility of the Drive. If required, these parameters can only be accessed using serial communications. The tools we offer for this are:

- The Universal Keypad - a hand held, two line, LCD plain text display
- SESoft - graphical commissioning software and serial communications lead, SE71

We trust these guides will ease your transition to our latest range of Drives.

Please refer to the user manual of each Drive if more information is required or contact your local Drive Centre.

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Dinverter 2B

Analog out - Frequency
Analog out - Load
Analog in - Local speed reference
Analog in - Remote speed reference
Analog in - Torque reference
Analog in - Motor thermistor
Digital in - ET
Digital in - Reset
Digital in - Enable
Digital in - Run Forward
Digital in - Run Reverse
Digital in - Local / Remote
Digital in - Preset speed 1
Digital in - Preset speed 2
Digital in - Jog / Preset speed 3
Digital out - Drive status or At speed
Digital out - Drive running or Minimum speed

Commander SE

Analog out - Frequency
Analog in - Local speed reference
Analog in - Remote speed reference
Digital in - Enable
Digital in - Run forward
Digital in - Run reverse
Digital in - Local / Remote / Preset select
Digital in - Jog / Preset select / Motor thermistor
Digital out - Zero speed

2 Rating Tables

Dinverter 2B

Model	AC supply		Motor power		100% RMS AC input current	AC input power	100% RMS output current	150% overload current for 60 secs	Inrush current
	V (±10%)	ϕ	kW	HP	A	kVA	A	A	A
DIN1220075B	200 ~ 240	1	0.75	1.0	11.3	2.6	4.3	6.5	270
DIN1220150B	200 ~ 240	1	1.5	2.0	18.5	4.2	7.0	10.5	270
DIN1220220B	200 ~ 240	1	2.2	3.0	26.0	6.0	10.0	15.0	270
DIN3220075B	200 ~ 240	3	0.75	1.0	6.9	2.4	4.3	6.5	270
DIN3220150B	200 ~ 240	3	1.5	2.0	11.3	3.9	7.0	10.5	270
DIN3220220B	200 ~ 240	3	2.2	3.0	15.4	5.3	10.0	15.0	270
DIN3380075B	380 ~ 480	3	0.75	1.0	4.2	2.8	2.1	3.2	250
DIN3380110B	380 ~ 480	3	1.1	1.5	5.0	3.3	2.8	4.2	250
DIN3380150B	380 ~ 480	3	1.5	2.0	5.8	3.8	3.8	5.7	250
DIN3380220B	380 ~ 480	3	2.2	3.0	9.0	5.9	5.6	8.4	250
DIN3380300B	380 ~ 480	3	3.0	4.0	11.6	7.6	7.6	11.4	250
DIN3380400B	380 ~ 480	3	4.0	5.3	13.9	9.2	9.5	14.3	250

Commander SE

MODEL	SE2D200...							
	075		110		150		220	
AC supply voltage and frequency	Single or 3 phase 200 to 240V +/- 10%, 48 to 62Hz							
Input displacement factor (cos ϕ)	>0.97							
Nominal motor power - kW	0.75		1.1		1.5		2.2	
Nominal motor power - HP	1.0				2.0		3.0	
Output voltage and frequency	3 phase, 0 to input voltage, 0 to 1000Hz							
100% RMS output current - A	4.3		5.8		7.5		10.6	
150% overload current for 60 secs - A	6.5		8.7		11.3		15	
Typical full load input current - A* 1ph/3ph	11.0	5.5	15.1	7.9	19.3	9.6	26.2	13.1
Typical inrush current - A**(duration <10ms)	55				35			
Drive power losses at 230VAC at 6kHz switching frequency - W	54		69		88		125	
Weight - kg/lb	2.75 / 6							
Cooling fan fitted	No				Yes			

MODEL	SE23400...					
	075	110	150	220	300	400
AC supply voltage and frequency	3 phase 380 to 480V +/- 10%, 48 to 62Hz					
Input displacement factor (cos ϕ)	>0.97					
Nominal motor power - kW	0.75	1.1	1.5	2.2	3.0	4.0
Nominal motor power - HP	1.0		2.0	3.0		5.0
Output voltage and frequency	3 phase, 0 to input voltage, 0 to 1000Hz					
100% RMS output current - A	2.1	3.0	4.2	5.8	7.6	9.5
150% overload current for 60 secs - A	3.2	4.5	6.3	8.7	11.4	14.3
Typical full load input current - A*400V, 50Hz/480V, 60Hz	3.6	4.8	6.4	9.3	11	14
Typical inrush current - A** (duration <10ms)	90			60		
Drive power losses at 480VAC at 6kHz switching frequency - W	43	57	77	97	122	158
Weight - kg/lb	2.75 / 6					
Cooling fan fitted	No		Yes			

2.1 Cabling and fusing differences

Drive size kW	Input voltage V	No. of input phases	Din 2B input fuse rating A	SE input fuse rating A	Din 2B input cable size mm^2	SE input cable size mm^2
0.75	200 ~ 240	1	16	16	1.5	1.5
1.5	200 ~ 240	1	20	25	2.5	2.5
2.2	200 ~ 240	1	32	32	4.0	4.0
0.75	200 ~ 240	3	10	10	1.0	1.0
1.5	200 ~ 240	3	16	16	1.5	1.5
2.2	200 ~ 240	3	16	20	2.5	2.5
0.75	380 ~ 480	3	6	10	1.0	1.0
1.1	380 ~ 480	3	6	10	1.0	1.0
1.5	380 ~ 480	3	6	10	1.0	1.0
2.2	380 ~ 480	3	10	16	1.0	1.5
3.0	380 ~ 480	3	16	16	1.5	1.5
4.0	380 ~ 480	3	16	20	2.5	2.5

Shading in the above table indicates differences.

3 Dynamic Braking Comparison

Dinverter 2B

On board braking on all sizes, connect via terminals on Con 2.

Minimum resistance - L.V 33Ω
- H.V 82Ω

Commander SE

On board dynamic braking on Sizes 2,3 and 4. Dynamic braking not possible on Size 1.

MODEL	SE2D200...			
	075	110	150	220
Minimum braking resistor value - Ω	50			40
Recommended braking resistor value - Ω	100		75	50
Maximum braking current - A	9			11
Resistor peak power rating - kW	1.8		2.4	3.5

MODEL	SE23200400
Minimum braking resistor value - Ω	30
Recommended braking resistor value - Ω	30
Maximum braking current - A	14
Resistor peak power rating - kW	5.9

MODEL	SE23400...					
	075	110	150	220	300	400
Minimum braking resistor value - Ω	100			75		
Recommended braking resistor value - Ω	200			100		
Maximum braking current - A	10			12.5		
Resistor peak power rating - kW	3.4			6.9		

4 General Feature Comparison

Dinverter 2B by default is negative logic and Commander SE is positive logic. For Commander SE applications that require negative logic, simply set **p8.29** = 0 and perform a save routine.

Dinverter 2B

Distance between Drives in a cubicle = 5mm

Dinverter 2B status relay is N/O as default.

Dinverter 2B has a torque reference input terminal (C4).

Commander SE

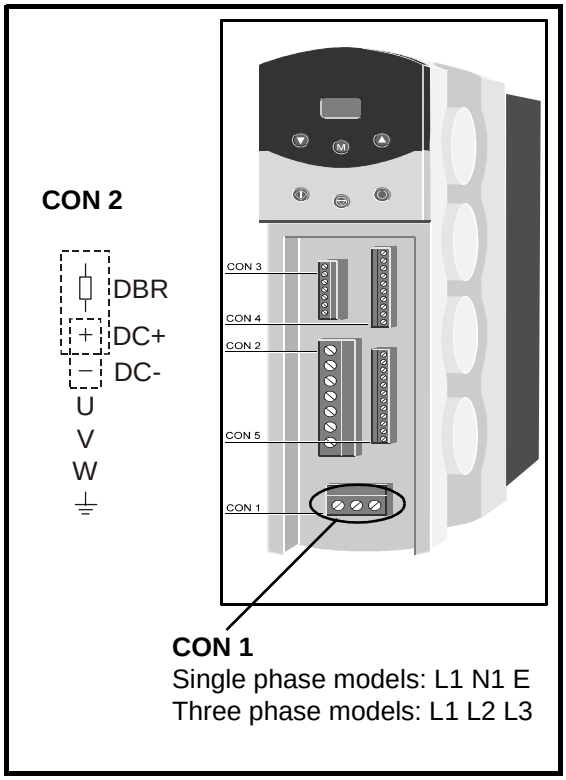
Distance between Drives in a cubicle = 20mm

Commander SE status relay is N/C at default. To change this to N/O set **p8.17** = 1 to invert the relay state.

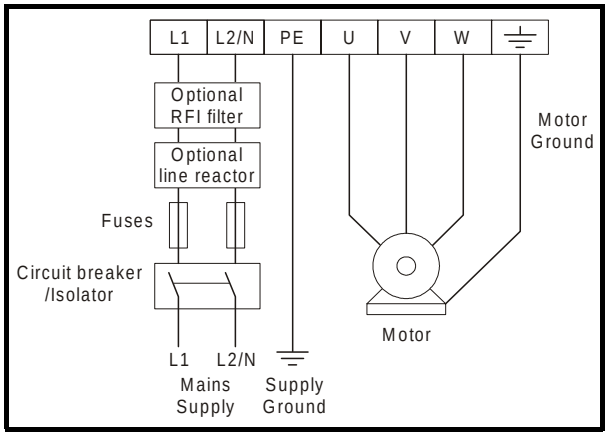
If torque reference is required then **p4.11** will need to be set to 1 and an analog input re-programmed to become a torque input, for example set **p7.10** = **4.08** for torque input to be terminal 2.

Dinverter 2B has a motor thermistor input terminal (A6)	If a motor thermistor input is required first set **p8.39** = 1 and then set **p8.40** = 1, the thermistor input is now available on terminal 13.
Dinverter 2B has an external trip terminal (C7)	If this fuction is required then a digital input will need to be set up, for example to use terminal 12 as ET input. First set **p8.39** = 1, then set **p8.15** = 1 and **p8.25** = **10.32** and perform a save routine. Terminal 12 is now active as an ET input.
Dinverter 2B has a Reset terminal (C8)	The Drive does have a Reset/Enable terminal (9) as default, so if the Drive is in a tripped state when an enable is applied, the Drive will reset automatically. However, if a seperate reset terminal is required then a digital input will have to be sacrificed, for example, if the JOG terminal 13 is not used in your application then this can be programmed to be the reset terminal. Set **p8.39** = 1, then set **p8.26** = **10.33** and perform a save routine.
Dinverter 2B has an analog voltage output for frequency or load. Terminal (B1)	As default the Commander SE has a frequency output on terminal 6. However, it does not have an individual load output terminal. If this is required, terminal 6 will have to be programmed. Set parameter 36 = Ld.
Dinverter 2B has an analog current output for frequency or load. Terminal (B2).	Commander SE does not have a current output available.
Dinverter 2B has a status output that indicates “drive running” or “at speed”. Terminals (A1, A2)	At default Commander SE’s status output indicates “zero speed”. To change this to “drive running”, set **p8.21** = **10.02**. Alternatively, if “at speed” is required, set **p8.21** = **10.06** and perform a save routine.
Dinverter 2B has 3 preset speed terminals (B8,B9 and B10)	If preset speeds are required parameter **05** will need to be set to A1.Pr or A2.Pr depending on which speed reference is required, current or voltage. 3 preset speeds can be selected by switching terminals 12 and 13.
Dinverter 2B has a selectable Jog terminal (B10)	As default Commander SE has a Jog input on terminal 13. However, if preset speeds are required as well as a Jog input, then a digital input will have to be sacrificed in order to assign the Jog function.

5 Power Terminal Comparison



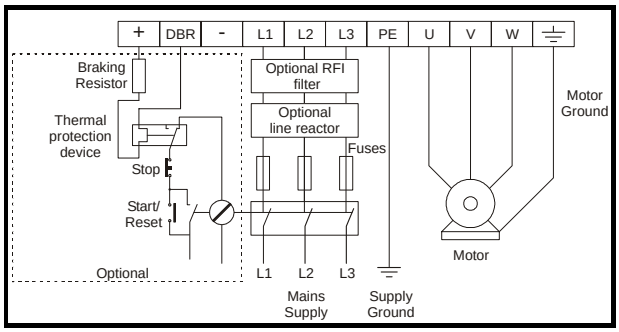
Dinverter 2B power terminal connections



Commander SE Size 1 power terminal connections.

NOTE

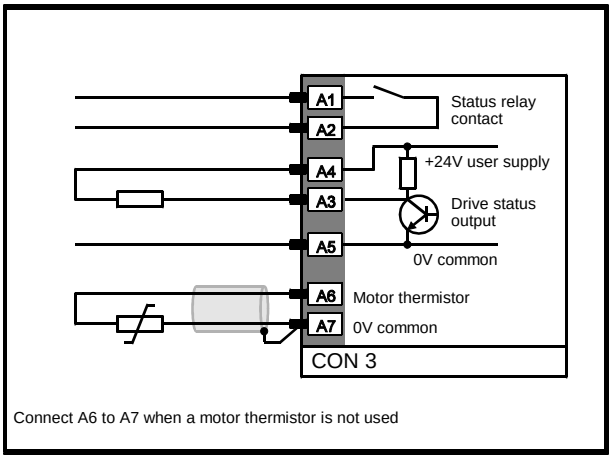
On Commander SE Size 1 no DC Bus connections are available and hence dynamic braking is not available.



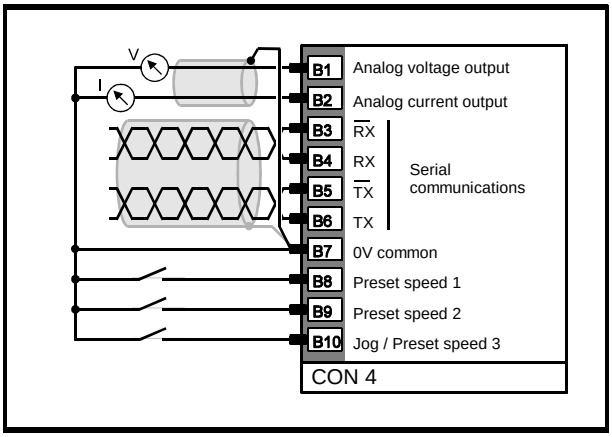
Commander SE Size 2 to 4 power terminal connections.

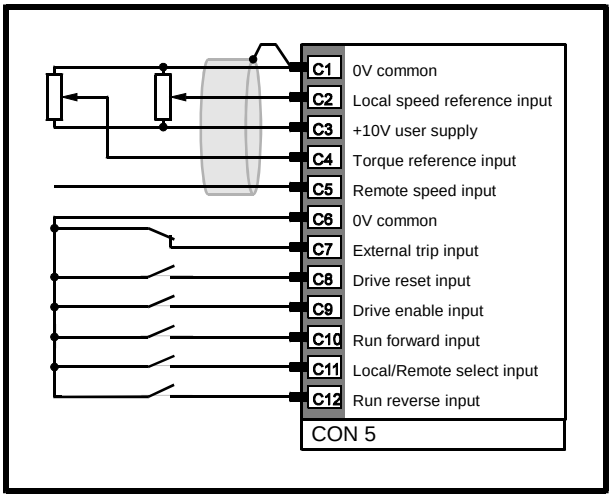
6 Control Terminal Comparison

Dinverter 2B

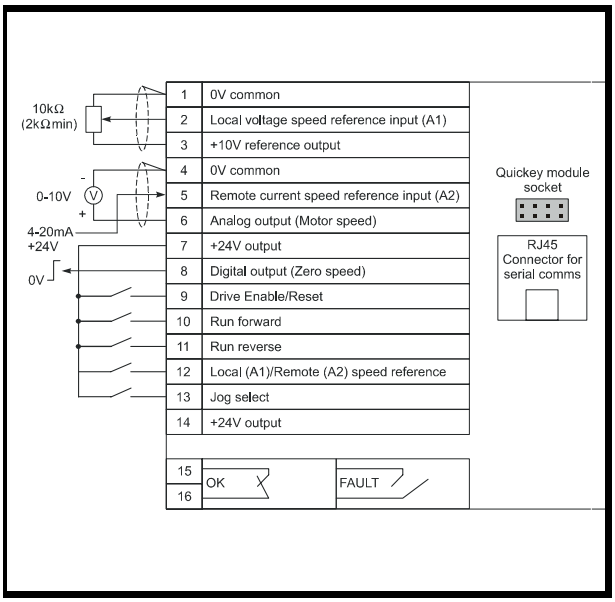


Connect A6 to A7 when a motor thermistor is not used





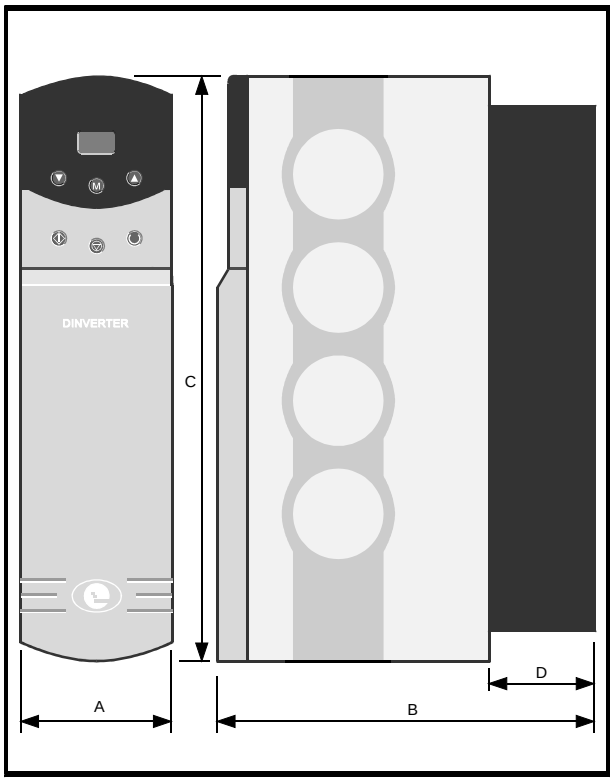
Commander SE



7 Installation Comparison

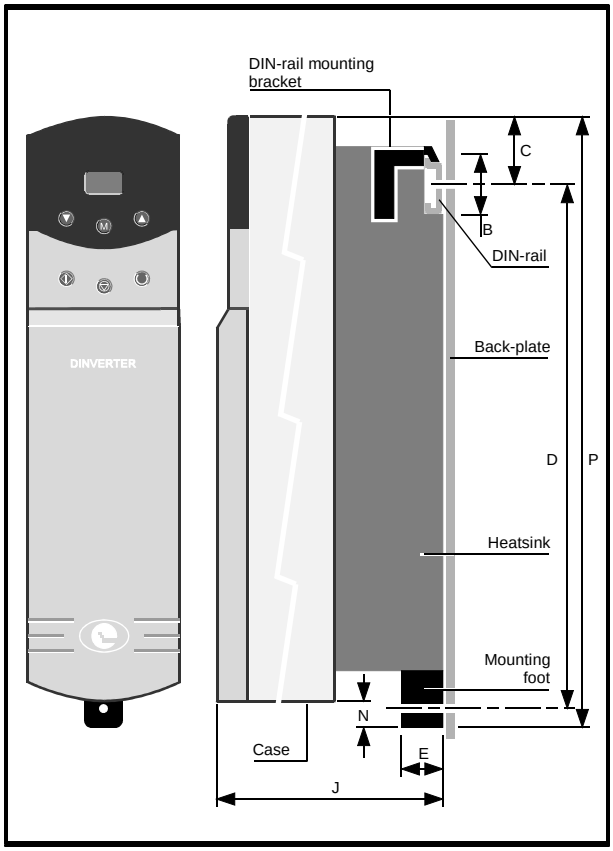
7.1 Dinverter 2B Drive Dimensions

Overall Dimensions



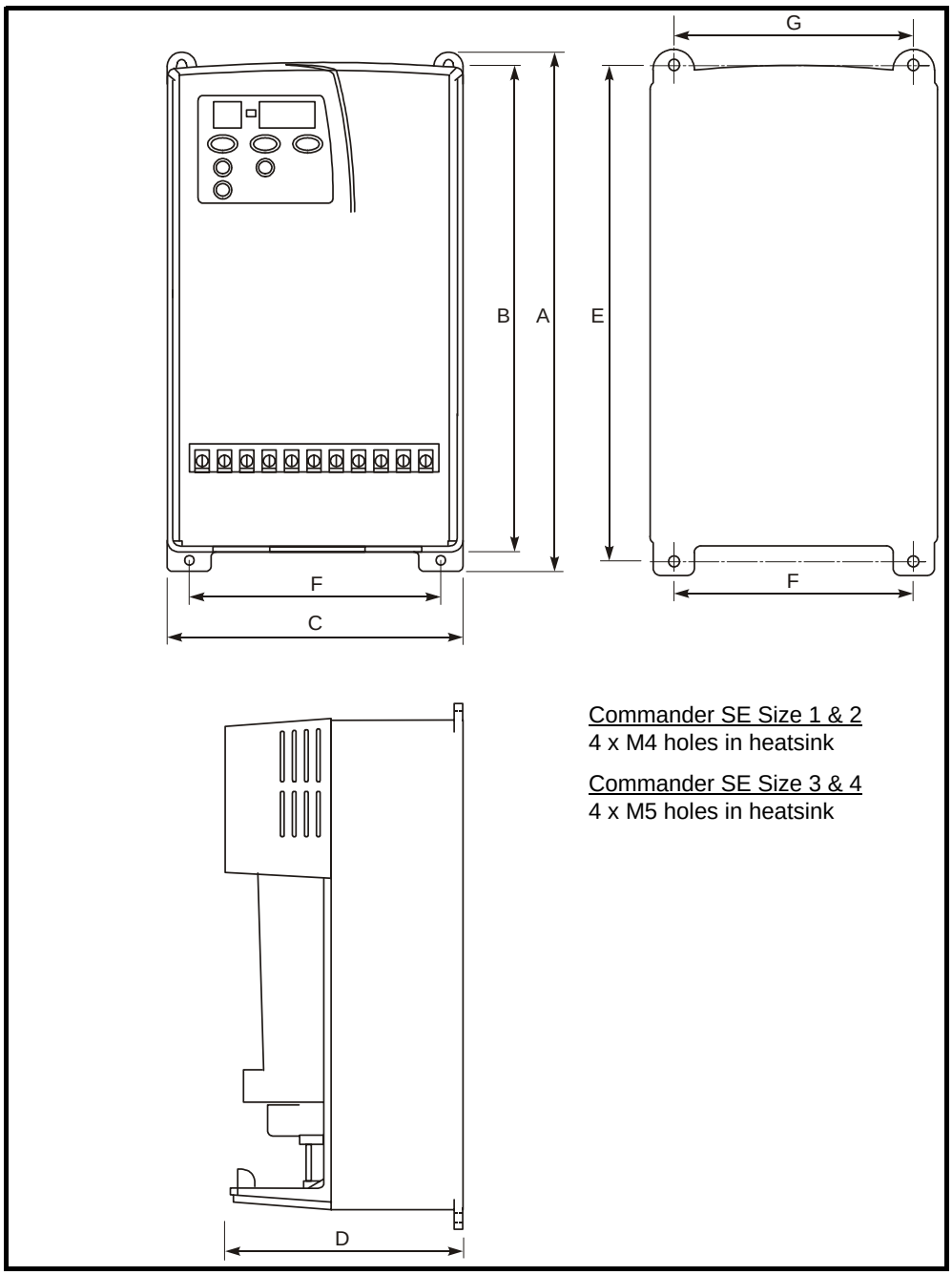
Dimension	mm	in
A	91	$3^{9}/_{16}$
B	200	$7^{7}/_{8}$
C	293	$11^{1}/_{2}$
D	56	$2^{1}/_{8}$

Din Rail Mounting Dimensions



Dimension	mm	in
B	35	$1^{3}/_{8}$
C	37.5	$1^{1}/_{2}$
D	258	$10^{3}/_{16}$
E	15	$^{9}/_{16}$
F	200	$7^{7}/_{8}$
J	200	$7^{7}/_{8}$
N	8	$^{5}/_{16}$
P	301	$11^{7}/_{8}$
Hole diameter	5.5	$^{3}/_{16}$

7.2 Commander SE Drive Dimensions



Drive Size	A		B		C		D		E		F		G	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
1	191	$7^{33}/_{64}$	175	$6^{57}/_{64}$	102	$4^{1}/_{64}$	130	$5^{7}/_{64}$	181.5	$7^{9}/_{64}$	84	$3^{5}/_{16}$	84	$3^{5}/_{16}$
2	280	$1^{11}/_{64}$	259	$10^{3}/_{16}$	147	$5^{25}/_{32}$	130	$5^{7}/_{64}$	265	$10^{7}/_{16}$	121.5	$4^{25}/_{32}$	121.5	$4^{25}/_{32}$
3	336	$13^{7}/_{32}$	315	$12^{13}/_{32}$	190	$7^{31}/_{64}$	155	$6^{7}/_{64}$	320	$12^{19}/_{32}$	172	$6^{25}/_{32}$	164	$6^{29}/_{64}$
4	412	$16^{7}/_{32}$	389	$15^{5}/_{16}$	250	$9^{27}/_{32}$	185	$7^{9}/_{32}$	397	$15^{5}/_{8}$	228	$8^{63}/_{64}$	217	$8^{35}/_{64}$

7.3 Dinverter 2B Drive Losses

Model	Power dissipation in Watts at specified switching frequency				Fan air flow
	2.9 kHz	5.9 kHz	8.8 kHz	11.7 kHz	m^3/min
DIN1220075B	64	70	88	90	None
DIN1220150B	67	73	93	114	0.72m^3
DIN1220220B	82	115	131	140	0.72m^3
DIN3220075B	52	61	67	71	None
DIN3220150B	62	72	80	85	0.72m^3
DIN3220220B	81	93	108	124	0.72m^3
DIN3380075B	41	44	49	61	None
DIN3380110B	46	57	65	72	None
DIN3380150B	55	67	73	89	0.72m^3
DIN3380220B	75	89	97	119	0.72m^3
DIN3380300B	90	105	120	138	0.72m^3
DIN3380400B	110	120	135	148	0.72m^3

7.4 Commander SE Drive Losses

Drive	3kHz W	6kHz W	12kHz W
SE11200025	17	18	20
SE11200037	22	24	27
SE11200055	34	37	42
SE11200075	50	56	63
SE2D200075	48	54	62
SE2D200110	63	69	80
SE2D200150	82	88	103
SE2D200220	114	125	146
SE23200400	156	174	206
SE23400075	35	43	63
SE23400110	44	57	79
SE23400150	61	77	105
SE23400220	77	97	130
SE23400300	95	122	159
SE23400400	126	158	192
SE33200550	210	230	265
SE33200750	280	305	335
SE33400550	130	190	295
SE33400750	215	270	385
SE43401100	280	400	570
SE43401500	345	495	700

8 Parameter Comparison

NOTE

Extended Menu parameters on Commander SE can only be accessed using serial communications. The tools we offer for this are:

- ***The Universal Keypad - a hand held, two line, LCD plain text display***
- ***SESoft - graphical commissioning software and serial communications lead, SE71***

Par. No.	Description Dinverter 2B	Default Setting	Description Commander SE (Level 1-2)	Corresponding Extended Menu Parameter	Default Setting
Pr0	Min frequency	0Hz	01	1.07	0.0Hz
Pr1	Max frequency	50Hz	02	1.06	50.0Hz
Pr2	Acceleration time	5s/120Hz	03	2.11	5s/100Hz
Pr3	Deceleration time	10s/120Hz	04	2.21	10s/100Hz
Pr4	Timed current limit	150%	N/A	4.07	150%
Pr5	Max cont current	100% FLC	06	5.07	Drive rated current
Pr6	Torque (voltage) boost	5.1%	N/A	5.15	5.0%
Pr7	Slip compensation	0Hz	07	5.08	Upon entering the value from the motor nameplate for parameter 5.08, the Drive will automatically calculate the correct value of slip and enable slip compensation.
Pr8	DC injection brake current	150%	N/A	6.06	100%
Pr9	Serial address	11	43	11.23	1.1
PrA	Fault log	Blank	18	10.20	Blank
PrA-1	Fault log	Blank	19	10.21	Blank
PrA-2	Fault log	Blank	20	10.22	Blank
PrA-3	Fault log	Blank	21	10.23	Blank
PrA-4	Fault log	Blank	N/A	10.24	Blank
PrA-5	Fault log	Blank	N/A	10.25	Blank
PrA-6	Fault log	Blank	N/A	10.26	Blank
PrA-7	Fault log	Blank	N/A	10.27	Blank
PrA-8	Fault log	Blank	N/A	10.28	Blank
PrA-9	Fault log	Blank	N/A	10.29	Blank
Prb	Security code	0	25	11.30	0
b0	Torque or speed reference selector	1=speed	N/A	4.11	0=speed
b1	Keypad auto or manual start selector start	1=manual	N/A	N/A	N/A
b2	Stopping mode selector	0=standard ramp	31	6.01	1=standard ramp
b3	Low speed torque boost selector	0=auto	SE is an open loop vector Drive by default, but fixed boost mode is attainable by setting p5.14 = 2		
b4	Bipolar ref	1=unipolar	SE is unipolar by default. However with the addition of the SE51 option card, a bipolar speed input is achievable.		

Par. No.	Description Dinverter 2B	Default Setting	Description Commander SE (Level 1-2)	Corresponding Extended Menu Parameter	Default Setting
b5	Logic selector	N/A	N/A	N/A	N/A
b6	Speed reference selector	0	N/A	N/A	N/A
b7	Stopping mode selector	0=standard ramp	31	6.01	1=standard ramp
b8	Display mode selector	0=frequency	22 and 23	4.21 and 5.34	If the mode key is held down for 2s then the display will change between frequency and load.
b9	Terminal or keypad select	1=terminal	05	1.14	A1.A2 terminal
b10	Display time-out mode	0	N/A	N/A	N/A
b11	Remote reference input selector	4-20mA	16	7.11	4-.20mA
b12	Baud rate selector	4.8	42	11.25	4.8
b13	Parameter reset	0	29	11.43	No
b14	Switching frequency	2.9kHz	37	5.18	6kHz
PrC	Voltage/frequency profile	50Hz	08	Dependant on settings of 5.06 and 5.09	Rated voltage EUR = 400V, USA = 460V
			N/A		Rated frequency EUR = 50Hz, USA = 60Hz
Prd 0-10	Menu access	N/A	N/A	N/A	N/A
Pr10	Skip frequency 1	0Hz	N/A	1.29	0.0Hz
Pr11	Skip frequency 2	0Hz	N/A	1.31	0.0Hz
Pr12	Skip frequency 3	0Hz	N/A	1.33	0.0Hz
Pr13	Skip freq. band 1	0.5Hz	N/A	1.30	0.5Hz
Pr14	Skip freq. band 2	0.5Hz	N/A	1.32	0.5Hz
Pr15	Skip freq. band 3	0.5Hz	N/A	1.34	0.5Hz
Prd 10-20	Menu access	N/A	N/A	N/A	N/A
Pr20	Preset speed 1	0Hz	11	1.21	0.0Hz
Pr21	Preset speed 2	0Hz	12	1.22	0.0Hz
Pr22	Preset speed 3	0Hz	13	1.23	0.0Hz
Pr23	Preset speed 4	0Hz	14	1.24	0.0Hz
Pr24	Preset speed 5	0Hz	N/A	1.25	0.0Hz
Pr25	Preset speed 6	0Hz	N/A	1.26	0.0Hz
Pr26	Preset speed 7	0Hz	N/A	1.27	0.0Hz
Pr27	Jog speed	1.5Hz	15	1.05	1.5Hz
b20	Preset speed selector	0=3 presets and jog	Setting p05=4 will give 4 preset speeds, and a seperate jog terminal can also be programmed as required. SE can give up to 8 preset speeds (see *Drive set-up for 8 preset speeds* in the *Commander SE Advanced User Guide.*		
b21	Preset ramp selector	0	N/A	2.10	0=standard
b22	Preset speed reversal selector	0	N/A	N/A	N/A
b23	Preset ramp selector	0	N/A	N/A	N/A

Par. No.	Description Dinverter 2B	Default Setting	Description Commander SE (Level 1-2)	Corresponding Extended Menu Parameter	Default Setting
b24 - b25	Analog output selectors	0 0 Frequency	N/A	7.33	0 = Frequency
b26	Current loop loss	0 = Trip on loss	N/A	7.11	4 = No trip on loss
b27	Normal running ramp selector	0	N/A	N/A	N/A
b28	PI control selector	0	N/A	14.08	0
Prd 20-30	Menu access	N/A	N/A	N/A	N/A
Pr30	Preset 1 accel	5s/120Hz	N/A	2.11	5.0s/100Hz
Pr31	Preset 2 accel	5s/120Hz	N/A	2.12	5.0s/100Hz
Pr32	Preset 3 accel	5s/120Hz	N/A	2.13	5.0s/100Hz
Pr33	Preset 4 accel	5s/120Hz	N/A	2.14	5.0s/100Hz
Pr34	Preset 5 accel	5s/120Hz	N/A	2.15	5.0s/100Hz
Pr35	Preset 6 accel	5s/120Hz	N/A	2.16	5.0s/100Hz
Pr36	Preset 7 accel	5s/120Hz	N/A	2.17	5.0s/100Hz
Pr37	Jog accel	0.2s/120Hz	N/A	2.19	0.2s/100Hz
Prd 30-40	Menu access	N/A	N/A	N/A	N/A
Pr40	Preset 1 decel	10s/120Hz	N/A	2.21	10s/100Hz
Pr41	Preset 2 decel	10s/120Hz	N/A	2.22	10s/100Hz
Pr42	Preset 3 decel	10s/120Hz	N/A	2.23	10s/100Hz
Pr43	Preset 4 decel	10s/120Hz	N/A	2.24	10s/100Hz
Pr44	Preset 5 decel	10s/120Hz	N/A	2.25	10s/100Hz
Pr45	Preset 6 decel	10s/120Hz	N/A	2.26	10s/100Hz
Pr46	Preset 7 decel	10s/120Hz	N/A	2.27	10s/100Hz
Pr47	Jog decel	0.2/120Hz	N/A	2.29	0.2s/100Hz
Prd 40-50	Menu access	N/A	N/A	N/A	N/A
Pr50	Number of reset attempts	0	N/A	10.34	0
Pr51	Reset delay	1s	N/A	10.35	1.0s
b50	Status relay selector	0=Drive healthy	N/A	8.27	p8.27 = 10.01 (Drive healthy)
b51	Fwd/rev key selector	0=disable	26	6.13	Off
b52	Synchronize to a spinning motor selector	0=disable	33	6.09	0=disable
b53	Status output selector	0=Drive running	N/A	If the Drive running is required, set p8.21=10.02. If at or below min speed is required, set p8.21 = 10.04	10.03 = Zero speed
b54	Voltage to frequency ratio selector	0=fixed V/F	32	5.13	0=fixed V/F
b55	Stop/reset key selector	0	N/A	N/A	N/A
b56	Deceleration selector for non important trips	0	N/A	N/A	N/A

Par. No.	Description Dinverter 2B	Default Setting	Description Commander SE (Level 1-2)	Corresponding Extended Menu Parameter	Default Setting
Pr60	Power rating of Drive	N/A	N/A	11.32 can be used to look at max output current for the unit	N/A
Pr61	Drive software version number	N/A	N/A	11.34 - 11.35	N/A
Pr62 -Pr63	Duration of Drive running time	N/A	N/A	6.22 - 6.23	N/A
Pr64	DC Bus braking level	750	N/A	N/A	N/A

8.1 Dinverter 2B Parameters (for reference)

Par. No.	Description	Default value	Min	Max	Setting 1	Setting 2
p0	Minimum frequency	0.0	0	p1		
p1	Maximum frequency	50 (EUR) / 60 (USA)	[p0]	ULF		
p2	Acceleration time	5.0	0.2	999		
p3	Deceleration time	10.0	0.2	999		
p4	Timed current limit	150	[p5]	150		
p5	Maximum continuous current	100	10	105		
p6	Torque (Voltage) boost	5.1 (EUR) / 3.0 (USA)	0	25.5		
p7	Slip compensation	0.0	0	25		
p8	DC injection brake current	150 (EUR) / 120 (USA)	40	150		
p9	Serial address	11	0	99		
pa	Fault log	0 to 9				
pb	Security code *Set by keypad* *Set by serial comms.*	0	100 1	255 255		
b0	Speed or Torque reference selector	1				
b1	Auto or Manual start selector	1				
b2	Stopping mode selector	0				
b3	Low-speed torque boost selector	0				
b4	Bipolar select	1				
b5	Logic selector	1				
b6	Speed reference selector	0				
b7	Stopping mode selector	0				
b8	Display mode selector	0				
b9	Terminal or Keypad mode selector	1				
b10	Display time-out mode	0				
b11	Remote reference input selector	4.20				
b12	Baud rate selector	4.8	4800	9600		
b13	Parameter reset	0				
b14	Switching frequency and frequency range selector	2.9, 120	2.9 120	11.7 960		
pc	Maximum-voltage frequency profile	50 (EUR)60 (USA)	ULF 16	ULF		
pd	Menu selector	0	0	60		
p10	Skip frequency 1	0	[p0]	[p1]		
p11	Skip frequency 2	0	[p0]	[p1]		
p12	Skip frequency 3	0	[p0]	[p1]		
p13	Skip band 1	±0.5	±0.5	±0.5		
p14	Skip band 2	±0.5	±0.5	±0.5		
p15	Skip band 3	±0.5	±0.5	±0.5		
p20	Preset speed	0	[p0]	±[p1]		
p20	Preset speed	0	[p0]	±[p1]		
p21	Preset speed	0	[p0]	±[p1]		
p22	Preset speed	0	[p0]	±[p1]		
p23	Preset speed	0	[p0]	±[p1]		
p24	Preset speed	0	[p0]	±[p1]		

Par. No.	Description	Default value	Min	Max	Setting 1	Setting 2
p25	Preset speed	0	[p0]	±[p1]		
p26	Preset speed	0	[p0]	±[p1]		
p27	Jog speed	+1.5 (EUR) +5.0 (USA)	0	±15		
b20	Preset speed selector	0				
b21	Preset ramp selector	b21 = 0				
b23	Preset ramp selector	b23 = 0				
b22	Preset speed reversal selector	0				
b24	Analog output selector	b24 = 0				
b25	Analog output selector	b25 = 0				
b26	Current-loop loss selector	0				
b27	Normal-running ramp selector	0				
b28	PI control selector	0				
p30	Preset acceleration	5.0	0.2	600		
p31	Preset acceleration	5.0	0.2	600		
p32	Preset acceleration	5.0	0.2	600		
p33	Preset acceleration	5.0	0.2	600		
p34	Preset acceleration	5.0	0.2	600		
p35	Preset acceleration	5.0	0.2	600		
p36	Preset acceleration	5.0	0.2	600		
p37	Jog acceleration	0.2	0.2	600		
p40	Preset deceleration	10.0	0.2	600		
p41	Preset deceleration	10.0	0.2	600		
p42	Preset deceleration	10.0	0.2	600		
p43	Preset deceleration	10.0	0.2	600		
p44	Preset deceleration	10.0	0.2	600		
p45	Preset deceleration	10.0	0.2	600		
p46	Preset deceleration	10.0	0.2	600		
p47	Jog deceleration	0.2	0.2	600		
p50	Number of reset attempts	0	1	5		
p51	Reset delay	1.0	1.0	5.0		
b50	Status relay selector	0				
b51	FWD/REV key selector	0				
b52	Catch a spinning motor selector	0				
b53	Status output selector	0				
b54	Voltage-to-frequency ratio selector	0				
b55	Stop/Reset key selector	0				
b56	Deceleration selector for non-important trips	0				
p60	Power rating of the Drive					
p61	Drive software version number					
p62	Duration of Drive running time					
p63	Duration of Drive running time					
p64	DC Bus braking level	750(EUR) 770(USA)	540	840		
b60 - b65	Factory settings					

8.2 Commander SE Level 1 and 2 Parameters (for reference)

Par	Description	Default		Corresponding extended menu parameter
		EUR	USA	
01	Min. speed (Hz)	0.0		1.07
02	Max. speed (Hz)	50.0	60.0	1.06
03	Accel. rate (s/100Hz)	5.0		2.11
04	Decel. rate (s/100Hz)	10.0		2.21
05	Ref. select	A1.A2	PAd	1.14
06	Rated current (A)	Drive rating		5.07
07	Rated speed (rpm)	1500	1800	5.08
08	Rated voltage (V)	230 / 400	230 / 460	5.09
09	Power factor	0.85		5.10
10	Parameter access	L1	L1	11.44
11	Preset 1 (Hz)	0.0		1.21
12	Preset 2 (Hz)	0.0		1.22
13	Preset 3 (Hz)	0.0		1.23
14	Preset 4 (Hz)	0.0		1.24
15	Jog. speed (Hz)	1.5		1.05
16	Current mode (mA)	4-.20		7.11
17	Enable negative preset speeds	OFF		1.10
18	Last trip	--		10.20
19	Trip before parameter 18	--		10.21
20	Trip before parameter 19	--		10.22
21	Trip before parameter 20	--		10.23
22	Load display units	Ld		4.21
23	Speed display units	Fr		5.34
24	Customer scaling	1.00		11.21
25	Security setup	0		11.30
26	Fwd/rev key enable	OFF		6.13
27	Power up key. ref	0		1.51
28	Parameter cloning	no		11.42
29	Load defaults	no		11.43
30	Ramp mode	1		2.04
31	Stopping mode	1		6.01
32	Variable torque select	OFF		5.13
33	Spinning motor select	0		6.09
34	Positive logic select	On		8.29
35	Start/Stop logic select	0		6.04
36	Analog output select	Fr		7.33
37	Switching frequency (kHz)	6		5.18
38	Auto tune	0		5.12
39	Rated frequency (Hz)	50.0	60.0	5.06
40	No. of poles	Auto		5.11
41	Serial mode	AnSI		11.24
42	Baud rate	4.8		11.25
43	Serial address	1.1		11.23
44	Software version	--		11.29
*45	Fieldbus node address	0		15.03
*46	Fieldbus baudrate	0		15.04
*47	Fieldbus diagnostics	0		15.06

* Will only appear when parameter 41 is set to FbUS.