

FDU50 Frequency inverters 018 to 037 (S2)

Type number	FDU50	-018	-026	-031	-037
Rated power	kW	11	15	18.5	22
Rated output current	A,RMS	18	26	31	37
Current limit I_{CL} , 60s	A,RMS	22	31	37	44
Input current	A,RMS	16	23	28	35
Min. brake resistor (for option brake chopper)	Ω	27	27	27	27
Mains fuse gL/gG acc. to IEC269	A	20	25	35	50
Ambient temperature for rated power	IP54 °C	0 - 40			
Switching frequency f_s	kHz	6kHz max			
Efficiency (P_{nom})	%	98			
Losses (P_{nom})	W	255	350	415	495
Derating	%/°C	-2.5 to +10°C max			
Degree of protection		IP54			
Dimensions size X2 HxWxD	mm	470(530) x 176 x 272			
Weight	kg	19			
Mains/motor cable entry	mm	\varnothing 32			
Max. section motor/mains cable solid (stranded)	mm ²	16(10)			

FDU50 Frequency inverters 046 to 060 (X2)

Typenummer	FDU50	-046	-060
Rated power	kW	30	37
Rated output current	A,RMS	46	61
Current limit I_{CL} , 120s	A,RMS	55	73
Input current	A,RMS	42	57
Min. brake resistor (for option brake chopper)	Ω	25	12
Mains fuse gL/gG acc. to IEC269	A	80	
Ambient temperature for rated power	IP20 IP54 °C	0-40 0-35	
Switching frequency f_s	kHz	6kHz max	
Efficiency (P_{nom} and 1.5kHz)	%	97.5	
Losses (P_{nom} and 1.5kHz)	W	750	925
Derating	%/°C	-2.5 to +10°C max	
Degree of protection		IP20 IP54	
Dimensions size X2 HxWxD	mm	530(590)x220x270	
Weight	kg	30	
Glands mains/motor cable		2x M40	
Max. section motor/mains cable solid (stranded)	mm ²	16 (10)	25(16)

FDU50 Frequency inverters 074 to 090 (X3)

Typenummer	FDU50	-074	-090
Rated power	kW	45	55
Rated output current	A,RMS	74	90
Current limit I_{CL} , 120s	A,RMS	89	108
Input current	A,RMS	69	85
Min. brake resistor (for option brake chopper)	Ω	9.9	8.1
Mains fuse gL/gG acc. to IEC269	A	80	100
Ambient temperature for rated power	IP20 °C IP54	0-47 0-42	0-40 0-35
Switching frequency f_s	kHz	6kHz max	
Efficiency (P_{nom} and 1.5kHz)	%	98	
Losses (P_{nom} and 1.5kHz)	W	900	1100
Derating	%/°C	-2.5 to +3°C max	-2.5 to +10°C max
Degree of protection		IP20 IP54	
Dimensions size X3 HxWxD	mm	650(750)x340x295	
Weight	kg	55	
Glands mains/motor cable		2x M50	
Max. section motor/mains cable solid (stranded)	mm ²	50 (35)	

FDU50 Frequency inverters 109 to 174 (X4)

Typenummer	FDU50	-109	-146	-175
Rated power	kW	75	90	110
Rated output current	A,RMS	109	146	175
Current limit I_{CL} , 120s	A,RMS	131	175	210
Input current	A,RMS	102	137	164
Min. brake resistor (for option brake chopper)	Ω	6.7	5.0	4.2
Mains fuse gL/gG acc. to IEC269	A	125	160	200
Ambient temperature for rated power	IP20 °C IP54	0-50 0-45	0-47 0-42	0-40 0-35
Switching frequency f_s	kHz	6kHz max		
Efficiency (P_{nom} and 1.5kHz)	%	98		
Losses (P_{nom} and 1.5kHz)	kW	1.5	1.8	2.2
Derating	%/°C	No derating required	-2.5 to +3°C max	-2.5 to +10°C max
Degree of protection		IP20 IP54		
Dimensions size X4 HxWxD	mm	800(900)x450x330		
Weight	kg	85		
Glands mains/motor cable		2x M63		
Max. section motor/mains cable solid (stranded)	mm ²	50 (50)		95 (95)

FDU50 Frequency inverters 210 to 375 (X5)

Standard without output coils and with Control Panel.

Typenummer	FDU50	-210	-250	-300	-375
Rated power	kW	132	160	200	250
Rated output current	A,RMS	210	250	300	375
Current limit I_{CL} , 120s	A,RMS	252	300	360	450
Input current	A,RMS	197	235	282	352
Min. brake resistor (for option brake chopper)	Ω	3.5	2.92	2.43	1.94
Mains fuse gL/gG acc. to IEC269	A	250	315	400	
Ambient temperature for rated power	IP20 IP54 °C	0-50 0-45	0-47 0-42	0-40 0-35	
Switching frequency f_s	kHz	1.5kHz			
Efficiency (P_{nom} and 1.5kHz)	%	98			
Losses (P_{nom} and 1.5kHz)	kW	2.6	3.2	4	5
Derating	%/°C	No derating required	-2.5 to +3°C max	-2.5 to +10°C max	
Degree of protection		IP20 IP54			
Dimensions size X5 HxWxD	IP20 mm IP54	1100(1145)x500x420 Contact your supplier			
Weight	kg	160 (275)			
Max. section motor/mains cable solid (stranded)	mm ²	150			240

FDU50 Frequency inverters 500 to 750 (X10)

Typenummer	FDU50	-500	-600	-750
Rated power	kW	315	400	500
Rated output current	A,RMS	500	600	750
Current limit I_{CL} , 120s	A,RMS	600	720	900
Input current	A,RMS	470	564	704
Min. brake resistor (for option brake chopper)	Ω	2x 2.92	2x 2.43	2x 1.94
Mains fuse gL/gG acc. to IEC269	A	2x 315	2x 400	
Ambient temperature for rated power	IP20 °C IP54	0-40 0-35		
Switching frequency f_s	kHz	1.5kHz		
Efficiency (P_{nom} and 1.5kHz)	%	98		
Losses (P_{nom} and 1.5kHz)	kW	6.3	8	10
Derating	%/°C	-2.5 to +10°C max		
Degree of protection		IP20 IP54		
Dimensions size X10 HxWxD	IP20 mm IP54	2x 1100(1145)x500x420 Contact your supplier		
Weight	kg	320 (525)		
Max. section motor/mains cable solid (stranded)	mm ²	2x150		2x240

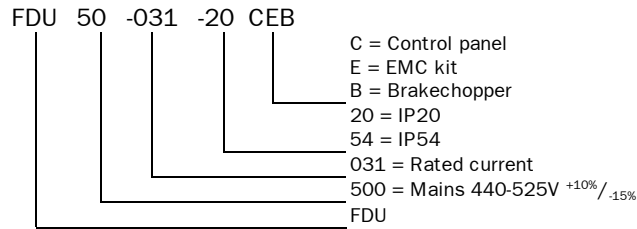
FDU50 Frequency inverters 900 to 1k1 (X15)

Typenummer	FDU50	-900	-1k1
Rated power	kW	630	710
Rated output current	A,RMS	900	1125
Current limit I_{CL} , 120s	A,RMS	1080	1350
Input current	A,RMS	865	1081
Min. brake resistor (for option brake chopper)	Ω	3x 2.43	3x 1.94
Mains fuse gL/gG acc. to IEC269	A	3x 400	
Ambient temperature for rated power	IP20 IP23/54 °C	0-40 0-35	
Switching frequency f_s	kHz	1.5kHz	
Efficiency (P_{nom} and 1.5kHz)	%	98	
Losses (P_{nom} and 1.5kHz)	kW	12.6	14.2
Derating	%/°C	-2.5 to +10°C max	
Degree of protection		IP20 IP54	
Dimensions size X15 HxWxD	IP20 IP54 mm	3x [1100(1145)x500x420] Contact your supplier	
Weight	kg	480 (ca. 800)	
Max. section motor/mains cable solid (stranded)	mm ²	2x300 or 3x240	

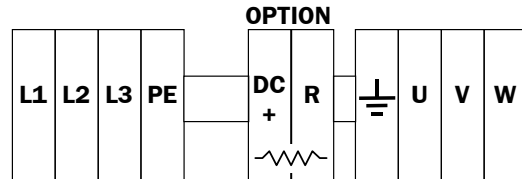
Common data FDU50

Mains voltage	V	440 - 525 ^{+10%} / _{-15%}
Mains frequency	Hz	50/60
Output frequency range	Hz	0 - 400
Output voltage range	V	0 - Mains
Maximum sound pressure level	dB(A)	≤70
Relative humidity	%	0 - 90 (non condensing)
Atmospheric pressure	kPa	86 -106
Vibrations		EN60068-2-6 Fc: 10-150Hz; 0.075mm/1g
Cooling		Forced, automatic
Power factor input current		0.95
Glands control signal cables (IP54 or EMC-kit only, IP20 with grommets)		2x M20
Max. control signal cable section solid (stranded)	mm ²	2.5 (1.5)
Digital inputs	8x	Input voltage HIGH: >7VDC Input voltage LOW: <4VDC Max. input voltage: 30VDC Input resistance: <12.8VDC: 5kΩ ≥12.8VDC: 3kΩ Signal delay: ≤8ms
Analogue inputs	2x	Input voltage/current: +10V/+20mA via jumper Max. input voltage: +30V Input impedance: 20kΩ (voltage) 250Ω (current) Resolution: 10 bits Hardware accuracy: 0.5% typ + 1½LSB fsd Non-linearity: 1½LSB
Digital outputs	2x	Output voltage HIGH: >20VDC @50mA Open voltage HIGH: >23VDC Output voltage LOW: <1VDC @50mA Short-circuit current: 100mA max *
Analogue outputs	2x	Output voltage/current: +10V/+20mA via jumper Max. output voltage: +15V @5mA cont. Short-circuit current (∞): +15mA (voltage) 140mA (current) Output impedance: 10Ω (voltage) Resolution: 10 bits Hardware accuracy: 1.9% typ fsd (voltage) 2.4% typ fsd (current) Full scale and zero error: 3LSB Non-linearity: 2LSB
PTC-input	1x	Comply to: DIN 44081/44082 Sense voltage: 2,0V ±10% Short-circuit current: 1,0mA ±10% No trip to trip treshold: 2825Ω Switch back treshold: 1500Ω
Relays	2x	Change-over contact 2A max.
Signal ground	3x	
Signal supply voltage 10VDC	1x	Current: 10mA max @10VDC Short-circuit current: 30mA
Signal supply voltage 24VDC	1x	Current *: 100mA short-circuit proof
Signal supply voltage -10VDC	1x	Current: -10mA max @-10VDC Short-circuit current: -30mA
Trip memory		Storage of last 10 trips. Resettable
Acceleration/Deceleration times	s	0.5-3600s

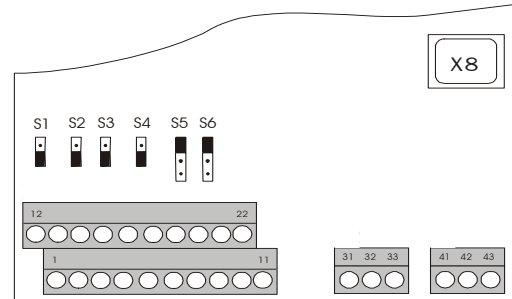
Type number key



Power connections



Signal connections



Connections terminal strip 1-22

Nr	Name	Type	Function	Signal
1	+10V	Ref	+10VDC Reference supply, 10mA max.	
2	AnIn1	Ana.Input	Programmable	0-10VDC or 0/4-20mA Resolution 10bits
3	AnIn2	Ana.Input	Programmable	0-10VDC or 0/4-20mA Resolution 10bits
4	PTC+	PTC Input	For motor thermistor acc. to DIN44081/44082	
5	PTC-	PTC Input		
6	-10V	Ref	-10VDC Reference supply, -10mA max.	
7	Common	Signal ground		
8	DigIn1	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
9	DigIn2	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
10	DigIn3	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
11	+24V	Ref	+24VDC Regulated, 100mA max. (together with DigOut 1&2)	
12	Common	Signal ground		
13	AnOut1	Ana.Output	Programmable	+10VDC of 0/4-20mA Resolution 10bits
14	AnOut2	Ana.Output	Programmable	+10VDC of 0/4-20mA Resolution 10bits
15	Common	Signal ground		
16	DigIn4	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
17	DigIn5	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
18	DigIn6	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
19	DigIn7	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
20	DigOut1	Binary Output	Programmable	24VDC (see pin11: +24VDC)
21	DigOut2	Binary Output	Programmable	24VDC (see pin11: +24VDC)
22	DigIn8	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA

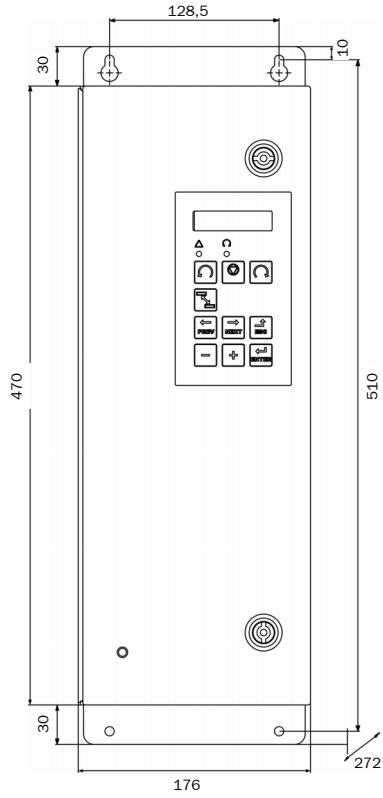
Connections terminal strip 31-33

31	Rel.1 NC	Relay Output	Relais 1: Programmable	Change-over contact Isolated 2A/250V~/AC1
32	Rel.1 P			
33	Rel.1 NO			

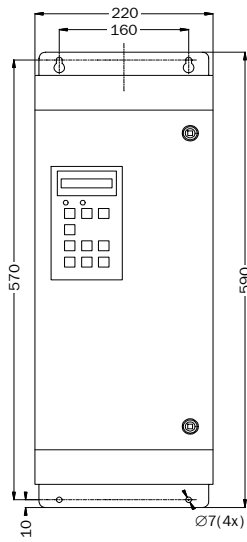
Connections terminal strip 41-43

41	Rel.2 NC	Relay Output	Relay 2: Programmable	Change-over contact Isolated 2A/250V~/AC1
42	Rel.2 P			
43	Rel.2 NO			

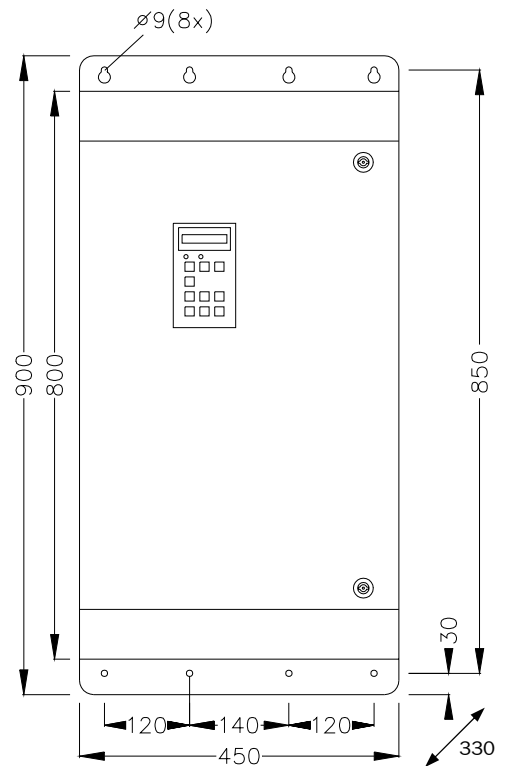
Dimensions FDU50-018 to 037 (S2)



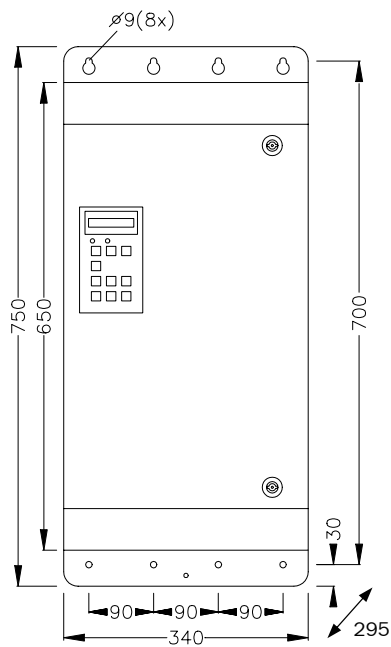
Dimensions FDU50-46 to 50 (X2)



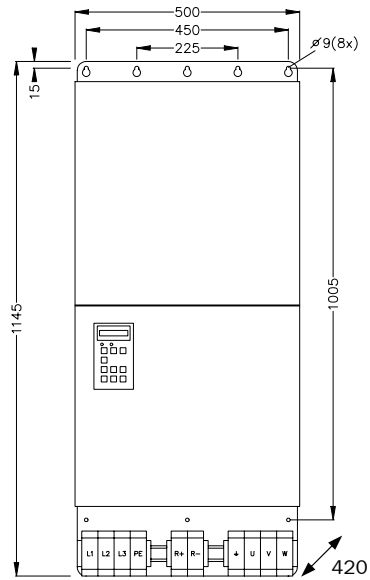
Dimensions FDU50-074 to 090 (X3)



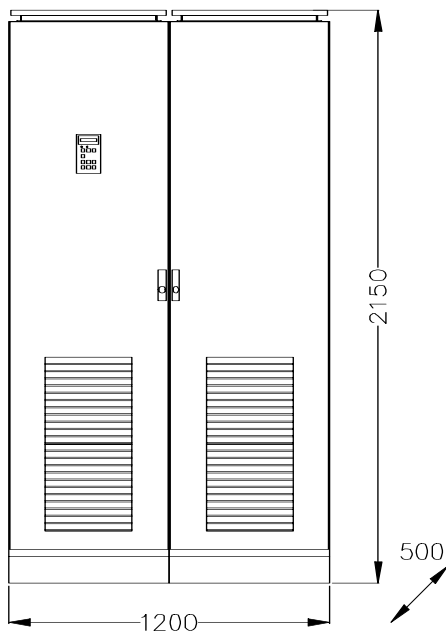
Dimensions FDU50-109 to 175 (X4)
IP20



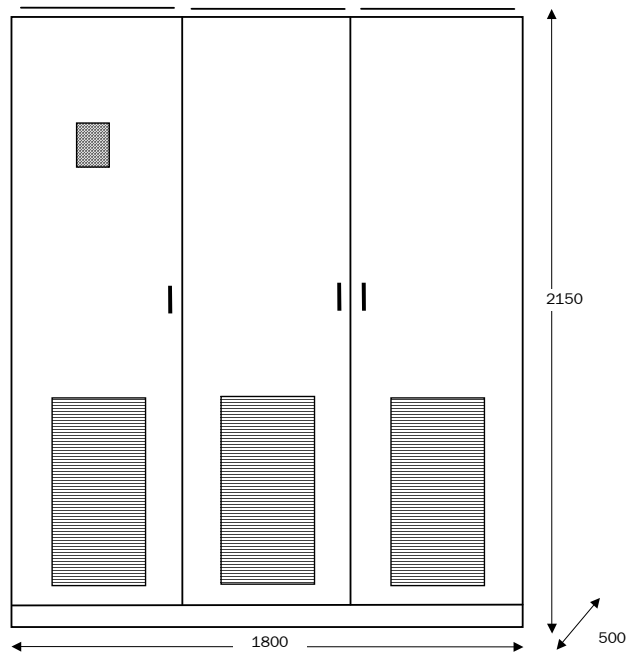
Dimensions FDU50-210 to 375 (X5)
Example of IP23/IP54 version



Dimensions FDU50-500 to 750 (X10)
Example of IP23/IP54 version



Dimensions FDU50-900 to 1k1 (X15)



Cabinet options

- Output coils (with single motor terminals).

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