

FDU40 Frequency inverters 003 to 013 (X1)

Type number	FDU40	-003	-004	-006	-008	-010	-013	
Rated power	kW	0.75	1.5	2.2	3	4	5.5	
Rated output current	A,RMS	2.5	4	6	7.5	9.5	13	
Current limit I_{cr} , 60s	A,RMS	3	4.8	7.2	9	11.4	15.6	
Input current	A,RMS	2.2	3.5	5.2	6.5	8.2	11.4	
Min. brake resistor (for option brake chopper)	Ω	227	142	94.4	75.6	59.7	43.6	
Mains fuse gL/gG acc. to IEC269	A	6		10			16	
Ambient temperature for rated power	IP20 IP54	0.50 0.45					0.40 0.35	
Switching frequency f_s	kHz	6kHz max						
Efficiency (P_{rnm} and 1.5kHz)	%	97						
Losses (P_{rnm} and 1.5kHz)	W	22.5	37.5	75	90	110	165	
Derating	%/°C	No derating required						-2.5 to max +10°C
Degree of protection		IP20 IP54						
Dimensions size X1 HxWxD	mm	350(400)x220x150						
Weight	kg	10						
Glands mains/motor cable		2x M20						
Max. section motor/mains cable solid (stranded)	mm ²	6 (4)						

FDU40 Frequency inverters 018 to 037 (S2)

Type number	FDU40	-018	-026	-031	-037
Rated power	kW	7.5	11	15	18.5
Rated output current	A,RMS	18	26	31	37
Current limit I_{cr} , 60s	A,RMS	22	31	37	44
Input current	A,RMS	16	23	28	35
Min. brake resistor (for option brake chopper)	Ω	22	22	22	22
Mains fuse gL/gG acc. to IEC269	A	20	25	35	50
Ambient temperature for rated power	IP54	0 - 40			
Switching frequency f_s	kHz	6kHz max			
Efficiency (P_{rnm} and 1.5kHz)	%	98			
Losses (P_{rnm} and 1.5kHz)	W	235	325	385	460
Derating	%/°C	-2.5 to max +10°C			
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)			

FDU40 Frequency inverters 046 - 073 (X2)

Type number	FDU40	-046	-060	-073
Rated power	kW	22	30	37
Rated output current	A,RMS	46	61	74
Current limit I_{CL} , 60s	A,RMS	55	73	89
Input current	A,RMS	42	57	69
Min. brake resistor (for option brake chopper)	Ω	19,4	9,7	
Mains fuse gL/gG acc. to IEC269	A	50	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	550	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)	50(35)

FDU40 Frequency inverters 090 to 108 (X3)

Typenummer	FDU40	-090	-108
Rated power	kW	45	55
Rated output current	A,RMS	90	109
Current limit I_{CL} , 60s	A,RMS	108	131
Input current	A,RMS	85	102
Min. brake resistor (for option brake chopper)	Ω	6,3	5.2
Mains fuse gL/gG acc. to IEC269	A	100	125
Ambient temperature for rated power	IP20 IP54 °C	040 035	040
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 +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)	

FDU40 Frequency inverters 109 to 175 (X4)

Typenummer	FDU40	-109	-146	-175
Rated power	kW	55	75	90
Rated output current	A,RMS	109	146	175
Current limit I_{CL} , 60s	A,RMS	131	175	210
Input current	A,RMS	102	137	164
Min. brake resistor (for option brake chopper)	Ω	5.2	3.9	3.2
Mains fuse gL/gG acc. to IEC269	A	125	160	200
Ambient temperature for rated power	IP20 IP54 °C	0.50 0.45	0.46,5 0.41,5	0.40 0.35
Switching frequency f_s	kHz	6kHz max		
Efficiency (P_{rm} and 1.5kHz)	%	98		
Losses (P_{rm} and 1.5kHz)	kW	1.1	1.5	1.8
Derating	%/°C	No derating required	-2.5 to +3.5°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)

FDU40 Frequency inverters 210 - 375 (X5)

Type number	FDU40	-210	-250	-300	-375
Rated power	kW	110	132	160	200
Rated output current	A,RMS	210	250	300	375
Current limit I_{CL} , 60s	A,RMS	252	300	360	450
Input current	A,RMS	197	235	282	352
Min. brake resistor (for option brake chopper)	Ω	2.70	2.27	1.89	1.51
Mains fuse gL/gG acc. to IEC269	A	250	315	400	
Ambient temperature for rated power	IP20 IP23/54 °C	0.50 0.45	0.47 0.42	0.40 0.35	
Switching frequency f_s	kHz	1.5kHz			
Efficiency (P_{rm})	%	98			
Losses (P_{rm})	kW	2.2	2.6	3.2	4
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 IP54 mm	1100(1145)x500x420 Contact your supplier			
Weight IP20	kg	160			
Terminals mains/motor cable	mm ²	150			240

FDU40 Frequency inverters 500 to 750 (X10)

Standard without output coils. IP23/54 standard with fuses for inverter protection, mains indication and Control Panel (contact your supplier). Output coils necessary for motor cable lengths <10m.

Type number	FDU40	-500	-600	-750
Rated power	kW	250	315	400
Rated output current	A,RMS	500	600	750
Current limit I_{ct} , 60s	A,RMS	600	720	900
Input current	A,RMS	470	564	704
Min. brake resistor (for option brake chopper)	Ω	2x 2,27	2x 1,89	2x 1,51
Mains fuse gL/gG acc. to IEC269	A	2x315	2x400	
Ambient temperature for rated power	IP20 IP54 °C	0-40 0-35		
Switching frequency f_s	kHz	1.5kHz		
Efficiency (P_{rnm})	%	98		
Losses (P_{rnm})	kW	5	6.3	8
Derating	%/°C	-2.5 to +10°C max		
Degree of protection		IP20 IP54		
Dimensions HxWxD size X10	IP20 IP54 mm	2x 1100(1145)x500x420 Contact your supplier		
Weight IP20	kg	320		
Terminals mains/motor cable	mm ²	2x150		2x240

FDU40 Frequency inverters 900 – 1k1 (X15)

IP23/54 standard with fuses for inverter protection, output coils, mains indication and Control Panel(contact your supplier).

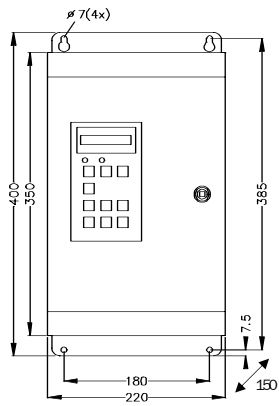
Type number	FDU40	-900	-1k1
Rated power	kW	500	630
Rated output current	A,RMS	900	1125
Current limit I_{ct} , 60s	A,RMS	1080	1350
Input current	A,RMS	865	1081
Min. brake resistor (for option brake chopper)	Ω	3x 1.89	3x 1.51
Mains fuse gL/gG acc. to IEC269	A	3x315	
Ambient temperature for rated power	IP20 IP54 °C	0-40 0-35	
Switching frequency f_s	kHz	1.5kHz	
Efficiency (P_{rnm})	%	98	
Losses (P_{rnm})	kW	10	12,6
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 IP20	kg	480	
Terminals mains/motor cable	mm ²	2x300 or 3x240	

Common data FDU40

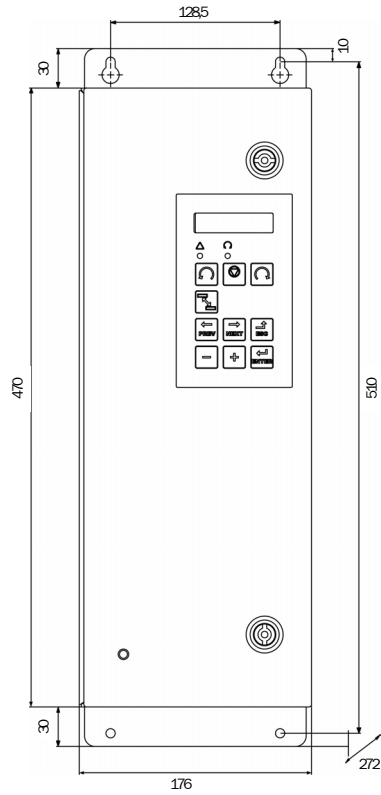
Mains voltage	V	380 - 415 ^{+10%} / _{-15%} (also suitable for 230V ^{+10%} / _{-15%} via programming)
Mains frequency	Hz	50/60
Output frequency range	Hz	0 - 400
Output voltage range	V	0 - Mains
Maximum sound pressure level	dB(A)	≤70
Relative humidity	%	0 - 90 (non condensing)
Atmospheric pressure	kPa	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		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

* together

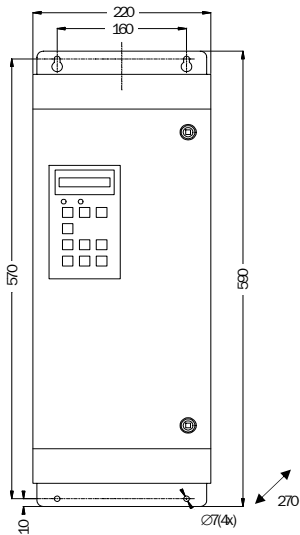
Dimensions FDU40-003 to 013 (X1)



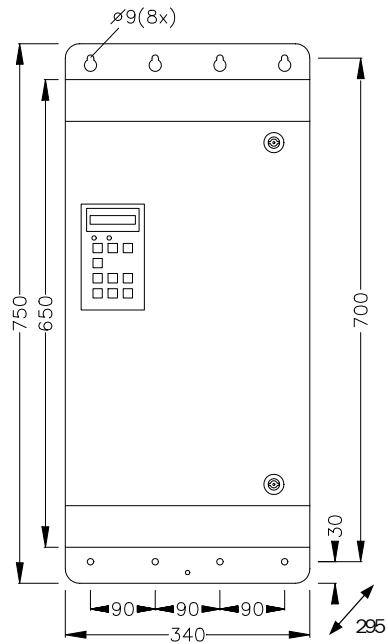
Dimensions FDU40-018 to 037 (S2)



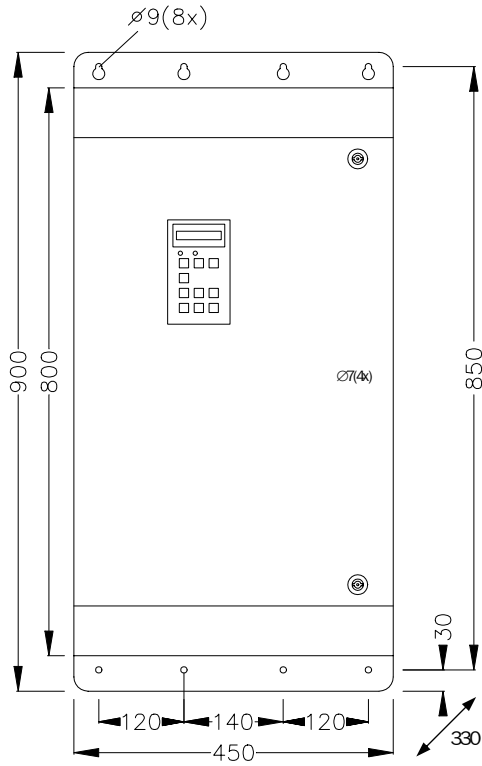
Dimensions FDU40-046 to 073 (X2)



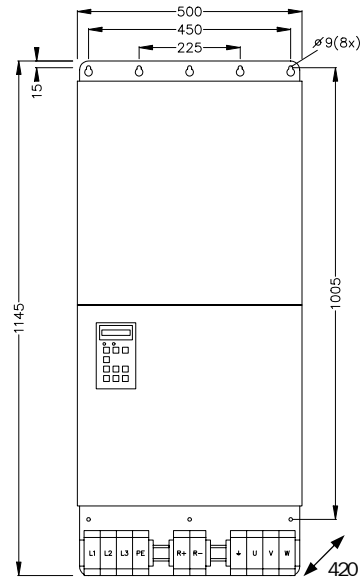
Dimensions FDU40-074 to 108 (X3)



Dimensions FDU40-109 to 175 (X4)

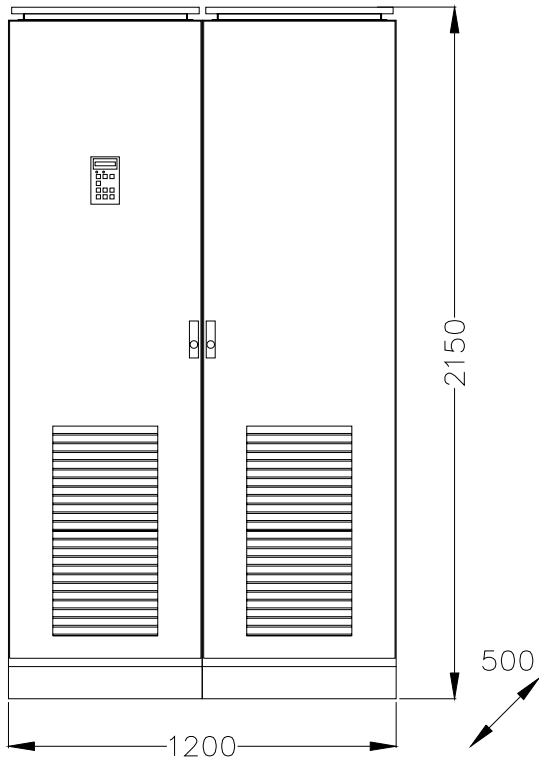


**Dimensions FDU40-210 to 375 (X5)
IP20**



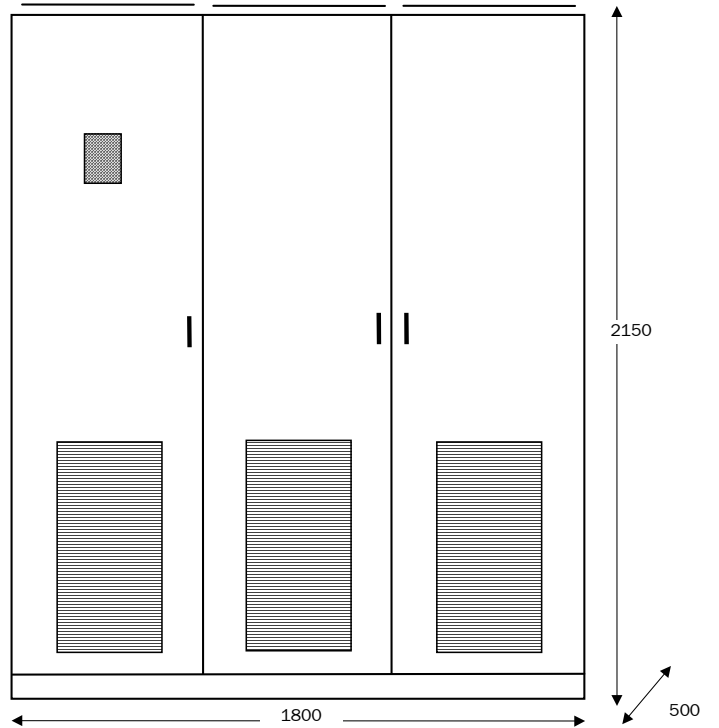
Dimensions FDU40-500 to 750 (X10)

Example of IP23/IP54 version



Dimensions FDU40-900 to 1k1 (X15)

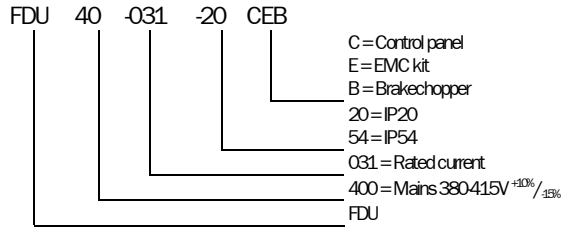
Example of IP23/IP54 version



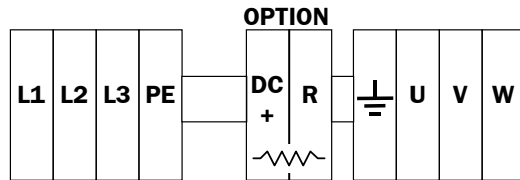
Cabinet options

- Output coils (with single motor terminals).

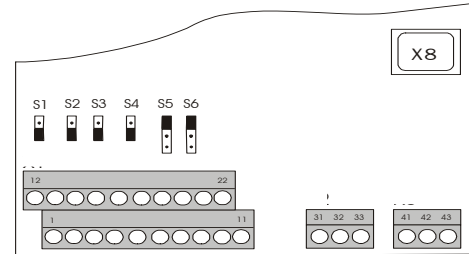
Type number key



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			