

## FDU69 Frequency inverters 120 to 270 (X5)

Standard without output coils and with Control Panel.

Typenumber	FDU69	-120	-140	-170	-215	-270
Rated power	kW	110	132	160	200	250
Rated output current	A,RMS	121	144	173	217	274
Current limit $I_{CL}$ , 120s	A,RMS	145	173	208	260	329
Input current	A,RMS	116	138	166	208	263
Min. brake resistor (for option brake chopper)	$\Omega$	7,9	6,7	5,54	4,4	3,5
Mains fuse gL/gG acc. to IEC269	A	125	160	200	250	315
Ambient temperature for rated power	IP20 IP54 °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	2.2	2.6	3.2	4	5
Derating	%/°C	-2.5 to +10°C max				
Degree of protection		IP20 IP54				
Dimensions size X5 HxWxD	IP20 IP54 mm	1100(1145)x500x460 Contact your supplier				
Weight	kg	160				
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	150				

## FDU69 Frequency inverters 340 to 540 (X10)

Typenumber	FDU69	-340	-430	-540
Rated power	kW	315	400	500
Rated output current	A,RMS	340	430	540
Current limit $I_{CL}$ , 120s	A,RMS	408	516	648
Input current	A,RMS	326	413	519
Min. brake resistor (for option brake chopper)	$\Omega$	2x 5.5	2x 4.4	2x 3.5
Mains fuse gL/gG acc. to IEC269	A	2x200	2x250	2x315
Ambient temperature for rated power	IP20 IP54 °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	6.3	8	10
Derating	%/°C	-2.5 to +10°C max		
Degree of protection		IP20 IP54		
Dimensions size X10 HxWxD	IP20 IP54 mm	2x 1100(1145)x500x460 Contact your supplier		
Weight	kg	320		
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	2x150		

## FDU69 Frequency inverters 645 to 810 (X15)

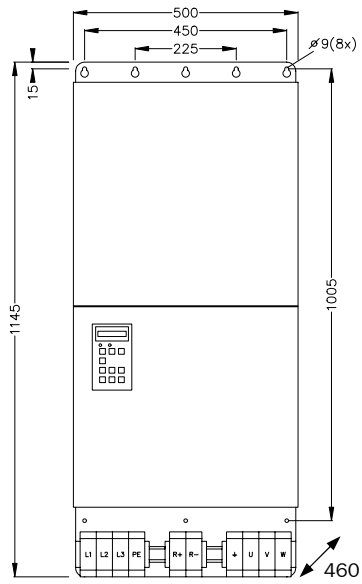
Typenumber	FDU69	-645	-810
Rated power	kW	630	800
Rated output current	A,RMS	645	810
Current limit $I_{CL}$ , 120s	A,RMS	774	972
Input current	A,RMS	619	778
Min. brake resistor (for option brake chopper)	$\Omega$	3x 4.4	3x 3.5
Mains fuse gL/gG acc. to IEC269	A	3x250	3x315
Ambient temperature for rated power	IP20 IP54 °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)x500x460] Contact your supplier	
Weight	kg	480	
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	2x 240	2x 300 or 3x 240

## Common data FDU69

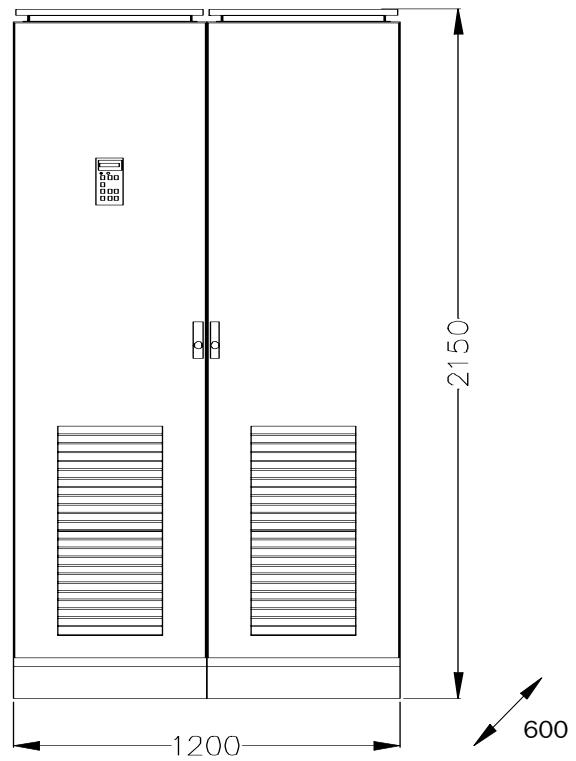
Mains voltage	V	550 - 690 <sup>+10%</sup> / <sub>-15%</sub>
Mains frequency	Hz	50/60
Output frequency range	Hz	0 - 400
Output voltage range	V	0 - Mains
Maximum sound pressure level	dB(A)	≤70
Relative humidity	%	0 - 90 (non condensing)
Atmospheric pressure	kPa	86 -106
Vibrations		EN60068-2-6 Fc: 10-150Hz; 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 <sup>2</sup>	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

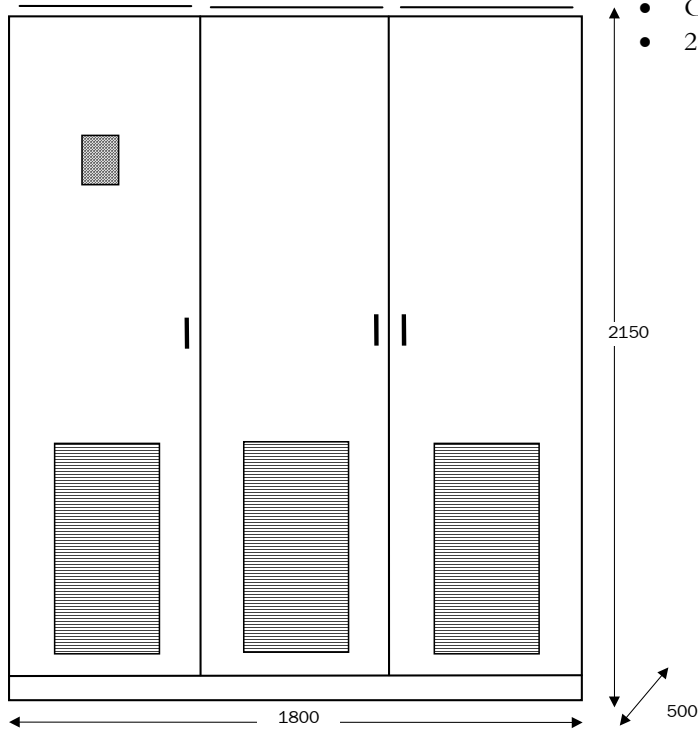
**Dimensions FDU69-120 to 270 (X5)  
IP20**



**Dimensions FDU69-340 to 540 (X10)  
Example of IP54 version**



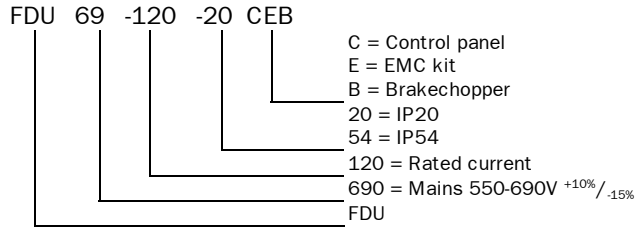
**Dimensions FDU69-645 to 810 (X15)  
Example of IP54 version**



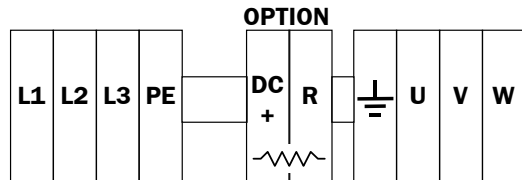
**Cabinet options**

- Output coils (with single motor terminals).
- 200mm sockle.

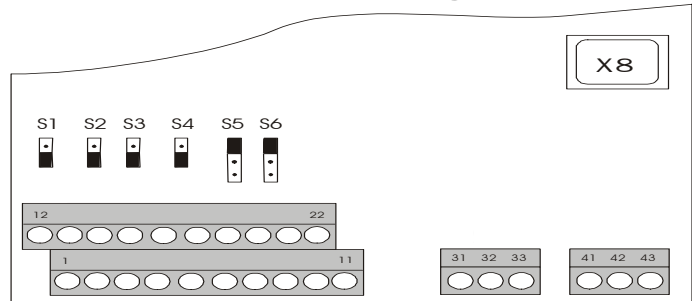
## Type number key



## 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			