

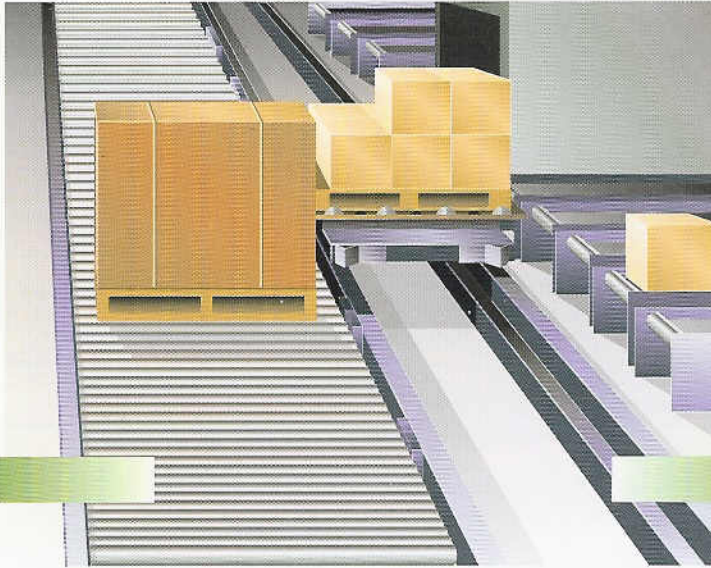
FREQROL  
Frequency  
Inverters

FREQROL  
FR-U 120 S-N EC



**High-Tech in a Tiny Package**

Conveyor belts, chain  
conveyors, transport  
belts and screw  
conveyors

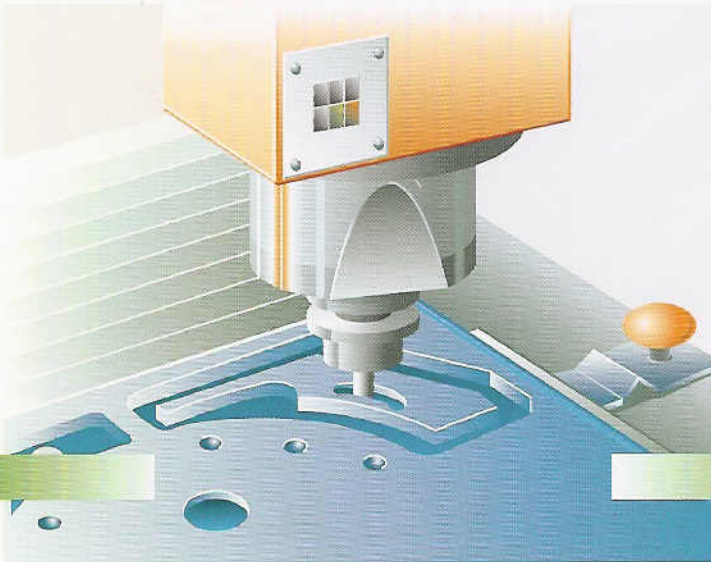


Use the advantages of  
3-phase AC technology for  
your applications:

- Material handling drive systems
- Fan, pump and agitator drives
- Drive systems for wood and metal working machines

- Wide speed range
- Adjustable torque boost for high initial torque
- Overload capacity up to 150% of nominal output current for 1 min.
- Adjustable acceleration and deceleration times for smooth starting and stopping
- Up to 15 preset speeds
- Jog mode

Sawing, cutting, drilling,  
milling and grinding  
machines



- High output frequencies for high tool speeds
- Machining speeds adjustable across a broad range for the needs of specific materials
- Continuous speed adjustment with digital motor potentiometer

Pump and fan drives



- High PWM switching frequency for whisper-quiet motor running
- Speed adjustment for energy savings

**FREQROL  
Frequency  
Inverters**
**Compact, space-saving design**

The FR-U 120 S-N EC is one of the smallest frequency inverters in this class. Enclosed in a sturdy and super-compact housing the unit takes up a minimum of space in your switchgear cabinet. Alternatively, it can be installed directly in the machine. Fitted with cage clamp terminals for quick installation and commissioning.

**Continuous status monitoring**

The FR-U 120 S-N EC has integrated functions to protect it against overcurrent, overvoltage, overload, earth faults and memory errors. When one of these functions is activated a detailed alarm message appears on the control unit's display. The error code identifies the activated protective function, enabling the operator to take the appropriate corrective action immediately. A general error message is output via a relay contact.

**Simple operation**

The integrated control unit provides direct access to all important drive parameters. Digital values are used, making it possible to reproduce your settings precisely for maximum reliability and precision. Current operating data such as output frequency and current can be displayed on the control unit.

*Control unit included*

*Original size*



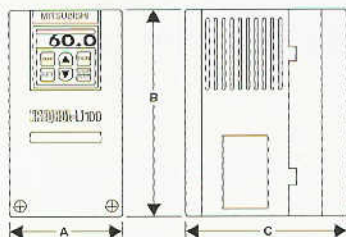
*The simple, reliable operation of the FR-U 120 S-N EC frequency inverter gives you easy access to the benefits of 3-phase AC technology. Despite its small dimensions this unit gives you a wide range of functions and flexibility that is normally only available from the 'big' frequency inverters.*

**The FREQROL FR-U 120 S-N EC gives you an unusually comprehensive set of features:**

- 15 preset speeds
- Digital motor potentiometer
- Second parameter set
- Jog mode
- Open collector output for operating status
- Output for motor current or output frequency
- High PWM switching frequency
- Earth fault protection
- Self-latching start signal
- Positive switching logic, PLC compatible

**Specifications  
FREQROL  
FR-U 120 S-N EC**

Model	FR-U 120 S-N EC				
	0.2 k	0.4 k	0.75 k		
<b>Output ratings</b>	Motor capacity	0.2 kW	0.4 kW	0.75 kW	
	Nominal output 240V output voltage	0.6 kVA	1.0 kVA	1.7 kVA	
	Nominal output current at 7kHz PWM switching frequency	1. A	2.4 A	4.1 A	
	Overload capacity	200% of nominal output current for 0.5s, 150% for 1 min.			
	Output voltage	0V to power supply voltage			
	Output frequency	0.5 - 120Hz			
	Starting frequency	0.5Hz			
	Modulation method	Sinusoidal PWM; switching frequency adjustable from 0.7 to 14.5kHz			
<b>Power supply</b>	Power supply voltage and frequency	1~220-240V, 50/60Hz			
	Supply voltage range	198-264V, 50/60Hz			
<b>Control specs</b>	V/f pattern	Type point fully adjustable from 50-120Hz			
	Torque boost	Manual torque boost			
	Torque limitation	110-200%, adjustable in 10% steps			
	DC brake	Braking duration and torque adjustable			
<b>Operating specs</b>	Reference value	DC 0-5V, DC 0-10V			
	Start signal	Separate start signals for forward and reverse operation			
	Preset speed settings	15 user-definable preset speeds, selectable via control inputs			
	Jog mode	Selectable via external signal; frequency, acceleration/deceleration periods fully adjustable			
	Digital motor potentiometer	Available			
	Acceleration/deceleration times	0.04-999s, adjustable			
	Acceleration/deceleration pattern	Linear			
	RESET signal	Via control unit or external signal			
	<b>Control outputs</b>	Operation status with open collector output (selectable)	RUN = motor running SU = up to reference FU = frequency detection		
		Output signal	FM pulse output for frequency and current		
<b>Protection</b>	Protection functions	Overcurrent, overvoltage, overload, undervoltage, ground fault, memory error, general fault alarm via relay contact (220VAC/0.3A; 30VDC/0.3A)			
<b>Environment</b>	Protection class	IP 20			
	Ambient temperature	-10°C - +50°C			

**Dimensions**


Model	FR-U 120 S-N EC		
	0.2 k	0.4 k	0.75 k
<b>Weight in kg</b>	0.7	0.9	1.7
<b>A (mm)</b>	70	70	110
<b>B (mm)</b>	130	130	130
<b>C (mm)</b>	101	141	147