

# ERCFW10

## MODEL

### Applications:

- Centrifugal pumps
- Process pumps
- Fans/Exhaust
- Stirrers/Mixers
- Extruding Machines
- Rollout tables
- Dryers
- Rotating filters
- Cutting machines



## Variable Speed Drive ERCFW10 Specification Sheet

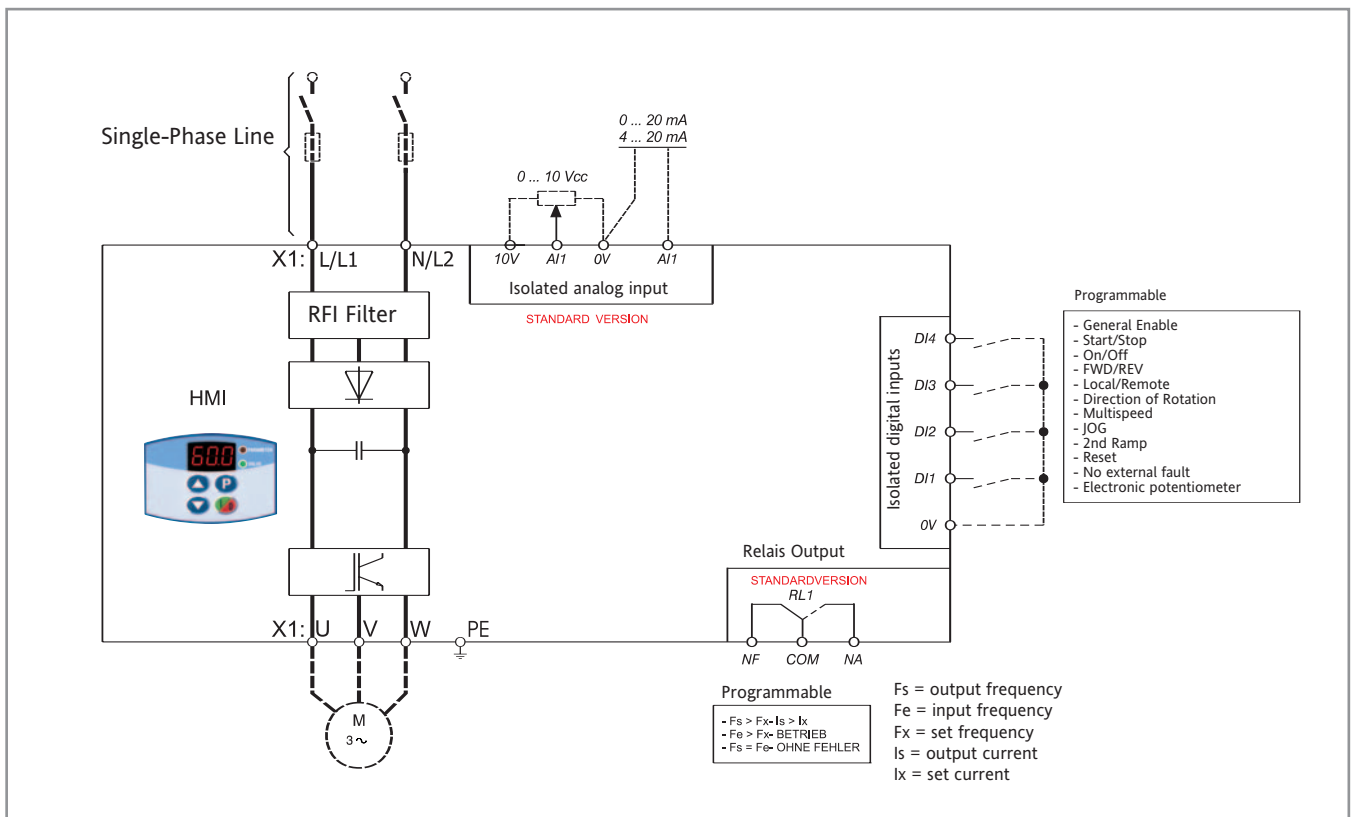
Designed for the control and speed variation of three phase induction motors, ERCFW10 drives unite modern design and world technology, where compactness, simplicity and programming facility stand out.

With simple installation and operation and optimized software, these drives have many functions available through the keypad, allowing their use in process controls and industrial machines.

### Features

- High speed DSP (Digital Signal Processor) enabling high performance operation and fast response
- Electronics with SV components
- Sinusoidal PWM modulation- Space Vector Modulation
- Last generation IGBT modules
- Considerable motor noise reduction
- Interface with membrane keypad (local)
- Flexible programming
- Compact dimensions
- Easy installation and operation
- High starting torque

## Block Diagram



## Specification Table

Line Voltage	Frequency Inverter ERCFW10				Maximum Applic. Motor Power		Dimensions (mm)			Weight (kg)		
	Supply	Model	I Out (A)	Size	Voltage (V)	HP	kW	H	W		D	
110-127	Single-phase	ERCFW100016S1112ESZ	1,6	1	127	0,25	0,18	132	95	121	0,9	
		ERCFW100026S1112ESZ	2,6	1		0,5	0,37					
		ERCFW100040S1112ESZ	4,0	2		1,0	0,75					
200-240		ERCFW100016S2024ESZ	1,6	1	230	0,25	0,17	132	95	121		1,5
		ERCFW100026S2024ESZ	2,6	1		0,5	0,37					
		ERCFW100040S2024ESZ	4,0	1		1,0	0,75					
	ERCFW100073S2024ESZ	7,3	2	2,0		1,50						
		ERCFW100100S2024ESZ	10,0	3		3,0	2,20	191	115	122	1,8	

NOTES: The maximum motor powers listed above were based on II and IV-pole motors. For motors with different numbers of poles (ex.: IV and VIII-poles), other voltages (ex.: 220V), specify the VFD through the motor rated current.

## Technical Data

Model		ERCFW10 Standard & ERCFW10 Plus Version		ERCFW10 Economic
POWER SUPPLY	Voltage	Single-phase	110 - 127V: 110/127V (+10%, - 15%)	
			200 - 240V: 200/220/230/240V (+10%, - 15%)	
	Frequency		50/60Hz +/- 2Hz (48...62Hz)	
	Cosφ (Displacement Factor)		>0,98	
ENCLOSURE	Standard		IP20	
CONTROL	Electronic Power Supply		Switching Power Supply	
	Control Method		Sinusoidal SV modulation ( <i>Space Vector Modulation</i> ) Linear U/F or quadratic U/F	
	Switching Frequency		IGBT transistors - Frequencies: from 2,5kHz up to 15kHz	
	Frequency Range		0...300Hz	
	Frequency Resolution		Analogue Ref.: 0,1% of max. frequency Digital ref.: 0,01Hz (F<100Hz); 0,1Hz (f>100Hz)	
	Accuracy (25°C ±10°C)		Analogue Ref.: 0,5% - Digital Ref. 0,01%	
	Overload capacity		150% during 60s, every 10 minutes (1,5 x I <sub>n</sub> Rated Current)	
INPUTS	Analogue		Isolated Input 0...10V, 0...20mA or 4...20mA	
	Digital		4 programmable isolated inputs	
OUTPUTS	Relay		1 programmable outputs, (1 reversible contact (NO/NC))	
			Programming Options: Is > Ix; Fs > Fx; Fe > Fx; Fs = Fe; Run; No Fault	
SAFETY	Protections		DC Link Overvoltage/Undervoltage	
			Heat sink Overtemperature	
			Drive Overload	
			Motor Overload (i x t)	
			Hardware Fault, External Fault	
			Output short-circuit	
		Programming Fault		
HUMAN-MACHINE INTERFACE (MMI)	Commands		Start/Stop Programming (General programming functions)	
			Frequency Increases/Decreases (Speed)	
	Monitoring (reading)		Motor Output Frequency (Hz)	
			DC Link Voltage (V)	
			Frequency proportional value	
			Heat sink temperatur	
			Motor Output Current (Amps)	
	Motor Output Voltage (Volts)			
	Fault Messages/Errors			
ENVIRONMENT	Temperature		0...50°C (with output current reduction)	
	Humidity		5...90% non condensing	
	Altitude		0...1000m (up to 4000m with output current reduction 10% /1000m)	
FINISHING	Color		Opaque gray	
STANDARDS	Electromagnetic Compatibility		EMC directive 89/339/EEC	
			EN 61800-3	
	Low Voltage		LVD73/23/EEC - Low Voltage Directive/UL508C	
SPECIAL FUNCTIONS	Standard		Human Machine Interface - 7 Segment displays (LEDs)	
			Programming access password	
			Self diagnose and automatic Reset	
			Indication of programmable specific unit	
			Slip compensation (V/F control)	
			Manual and automatic I x R	
			Adjustable linear and quadratic V/F curves	
			JOG Function (instantaneously speed impulses)	
			"S" type linear ramp and second ramps	
			Separate acceleration and deceleration ramps	
			DC braking (Direct Current)	
			Multi-Speed-Function (up to 8 pre programmable speeds)	
			Speed direction selection	
	Local/Remote selection			

## CODING

Model Number	Outp. rated current	Number of phases	Voltage supply	Manual	Options	EMC Filter	Special Hardware	Special Software	End of Code
									Z

Model Number	Voltage supply	Options	Special Hardware
ERCFW10 ERCFW10 Plus ERCFW10 Economic	1112 110-127V 2024 200-240V	S Standard O With Options	00 Standard HX Special Hardware Version X CL Economic Version PL Plus Version
Output rated current	Manual	EMC filter	Special Software
110-127V 220-240V 0016 1,6A 0016 1,6A 0026 2,6A 0026 2,6A 0040 4,0A 0040 4,0A 0073 7,3A 0100 10,0A	P Portuguese E English S Spanish D German	00 Without filter FA Filter class A	00 Standard SX Special Software Version X
Number of phases			
S Single Phase			

### Example:

**ERCFW100040S2024ESZ**

VFD of ERCFW10 Serie. 4.0, single-phase at 200-240VAC and manual in English

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