

### EP66 Series AC Drive

- IP66 Enclosure suitable for installation in damp, high humidity and dusty environments.
- Built in EMC filter C3 (2nd environment). C-Tick approved.
- Variable or constant torque applications.
- V/F or sensorless vector control with auto tuning.
- Speed or torque control modes.
- Suitable for permanent magnet synchronous motors.
- 150% overload for 60 sec.
- Starting torque 150% at 0.5Hz.
- Operating temperature up to +50 °C without derating.
- Removable 4 line LCD display.
- Emergency Fire Mode for HVAC applications.
- RS-485 MODBUS.
- Built in brake chopper on 415V 3ph units 0.4kW to 15kW.

#### Certifications and compliance

EN 61800-3:2004 +A1: 2012, RCM (C-Tick)



#### Specifications

Part No.	EP66-0007T3I1U1F2	EP66-0015T3I1U1F2	EP66-0022T3I1U1F2	EP66-0030T3I1U1F2	EP66-0040T3I1U1F2
Order Code	30EP660007T3104	30EP660015T3104	30EP660022T3104	30EP660030T3104	30EP660040T3104
Motor Output	0.75kw	1.5kw	2.2kw	3.0kw	4.0kw
Input Voltage	380-480V 3ph ( -15~+10%) 50/60Hz				
Output Voltage	3 phase proportional to input voltage				
Input Current	4.1A	6.9A	9.6A	10.2A	13.6A
Output Current	2A	4A	6.5A	7A	9A
Carrier Freq.	800Hz-16kHz				
Fan Cooling	No		Yes		
Weight (Kg)	6.2				
Dimensions mm	412 x 200 x 198 (h x w x d)				
EMI Filter	Built In				

Part No.	EP66-0055T3I2U1F2	EP66-0075T3I2U1F2	EP66-0110T3I3U1F2	EP66-0150T3I3U1F2	EP66-0185T3I3U1F2
Order Code	30EP660055T3104	30EP660075T3104	30EP660110T3104	30EP660150T3104	30EP660185T3104
Motor Output	5.5kw	7.5kw	11kw	15kw	18.5kw
Input Voltage	380-480V 3ph ( -15~+10%) 50/60Hz				
Output Voltage	3 phase proportional to input voltage				
Input Current	18.8A	22.1A	30.9A	52A	61A
Output Current	12A	17A	23A	32A	38A
Carrier Freq.	800Hz-16kHz				
Fan Cooling	Yes				
Weight (Kg)	8.2		11.3		25
Dimensions mm	418 x 242 x 198 (h x w x d)		471 x 242 x 228 (h x w x d)		650 x 242 x 324 (h x w x d)
EMI Filter	Built In				

### EP66 Series AC Drive

#### Specifications continued

Part No.	EP66-0220T3I4U1F2	EP66-0300T3I4U1F2	EP66-0370T3I4U1F2	EP66-0450T3I3U1F2	EP66-0550T3I3U1F2
Order Code	30EP660220T3104	30EP660300T3104	30EP660300T3104	30EP660450T3104	30EP660550T3104
Motor Output	22kw	30kw	37kw	45kw	55kw
Input Voltage	380-480V 3ph ( -15~+10%) 50/60Hz				
Output Voltage	3 phase proportional to input voltage				
Input Current	70A	95A	118A	141A	172A
Output Current	44A	60A	75A	90A	110A
Carrier Freq.	800Hz-16kHz				
Fan Cooling	yes				
Weight (Kg)	25		40		
Dimensions mm	650 x 242 x 324 (h x w x d)		680 x 308 x 379 (h x w x d)		
EMI Filter	Built In				

Part No.	EP66-0750T3I4U1F2	EP66-0900T3I4U1F2
Order Code	30EP660750T3104	30EP660900T3104
Motor Output	75kw	90kw
Input Voltage	380-480V 3ph ( -15~+10%) 50/60Hz	
Output Voltage	3 phase proportional to input voltage	
Input Current	234A	280A
Output Current	150A	180A
Carrier Freq.	800Hz-16kHz	
Fan Cooling	Yes	
Weight (Kg)	57	
Dimensions mm	770 x 370 x 404 (h x w x d)	
EMI Filter	Built In	

### EP66 Series AC Drive Braking Resistors

#### Specifications

Voltage	Applicable Motor		Order Code	Quantity Required	Equivalent brake resistor for each AC drive	Built In Brake Chopper	Min. Equivalent Resistor Value for Each AC Drive	Min Resistor Power
	HP	KW						
460V Series	1	0.75	DEVVVR080W200	1	80W 200Ω	Standard	145Ω	80W
	2	1.5	DEVBR200W150	1	200W 150Ω	Standard	95Ω	150W
	3	2.2	DEVBR300W100	1	300W 100Ω	Standard	95Ω	250W
	4	3	DEVBR300W100	1	300W 100Ω	Standard	95Ω	300W
	5.5	4	DEVBR400W150	1	400W 150Ω	Standard	95Ω	400W
	7.5	5.5	DEVBR300W250	2 (II)	600W 125Ω	Standard	95Ω	550W
	10	7.5	DEVBR300W400	3 (II)	900W 133.3Ω	Standard	95Ω	750W
	15	11	DEVBR300W250	4 (II)	1200W 62.5Ω	Standard	60Ω	1.1kW
	20	15	DEVBR1K5W040	1	1500W 40Ω	Standard	35Ω	1.5kW
	25	18.5	DEVBR1K0W075	2 (II)	2000W 37.5Ω	Optional	35Ω	2kW
	30	22	DEVBR1K5W040	4 (II-II)	3000W 40Ω	Optional	30Ω	2.2kW
	40	30	DEVBR1K0W075	3 (II)	3000W 75Ω	Optional	25Ω	3kW
	50	37	DEVBR1K5W040	6 (II-II)	4500W 26.6Ω	Optional	25Ω	4kW
	60	45	DEVBR1K0W075	5 (II)	5000W 15Ω	Optional	15Ω	4.5kW
	75	55	DEVBR1K0W050	12 (II-II)	6000W 16.6Ω	Optional	15Ω	5.5kW
	100	75	DEVBR1K5W040	10 (II-II)	7500W 16Ω	Optional	12Ω	7.5kW
	110	90	DEVBR1K5W040	12 (II-II)	9000W 13.3Ω	Optional	8Ω	9kW

### EP66 Series AC Drive

#### Specifications common to all sizes

CONTROL		
Control System	Sensorless vector, V/F, PMSM sensorless vector	
Output Frequency Range	0.50-650Hz	
Speed response	5Hz (up to 40Hz with vector control)	
Output Frequency Resolution	Digital Command: 0.01Hz; Analogue Command 0.03 x f max/60Hz ( $\pm 12$ bit)	
Output Frequency Accuracy	$\pm 0.5\%$	
Torque Limit	Max. 200%	
Torque Accuracy	$\pm 5\%$	
Overload Endurance	150% for 1 minute every 10 minutes	
Skip Frequency	Two zones, setting range 0 to 650Hz	
Accel/Decel Time	0.1 to 3000 /0.1-3000 second (4 Independent settings for Accel/Decel Time)	
V/F Pattern	Linear, square, user defined	
Stall Prevention Level	Up to 150% of drive rated current	
Over Torque Detection	60% to 200% of drive rated current	
DC Injection Braking	Operation frequency 0.2 to 50Hz, output 0-100% rated current Start time 0-30 sec, stop time 0-30 sec	
Braking Torque	Approx. 20% (up to 125% with braking resistor braking chopper built in up to 15kW)	
OPERATION		
Frequency Setting	Keypad	Setting by keypad
	External Signal	Analogue input DC 0 to +10V or 0 to +5V, 0 to 20mA; pulse train multi-function inputs (15 steps, jog, up/down). RS-485 interface
Operation Setting Signal	Keypad	Setting by RUN, STOP
	External Signal	2 wires/3 wires (FWD, REV, EF), RS-485 serial interface (MODBUS)
Multi-Function Inputs	6 x digital. inputs (NPN-PNP selectable) pulse train-input 2 analogue channels - 12 BIT: 0...10V, 0...5V, -10V...0...10V, 0...(4)20 mA, all free scalable in gain and offset, and can be mathematically combined	
Multi-Function Outputs	2 x programmable DO (with pulse output option)	
Analog Output Signal	1 x analogue frequency output. (2 x AO (Hz +I) for 18.5kW and above)	
Alarm Output Contact	1 x programmable output relays (1 x C/O )	
Operation Functions	Torque control, Slip compensation, Torque compensation, momentary power loss ride thru, speed search, over-torque detection, torque limit, JOG frequency, frequency upper/lower limit settings, auto-tuning, accel/decel time switch, S-curve, 15-step speed (max), DC injection braking at start/stop, fan control, PID control (with sleep function), energy saving control, emergency fire control accel/decel, MODBUS communication (RS-485 RJ45, max. 115.2 kbps)	
Protection	Over-current protection, electronic thermal relay protection, ground fault protection, DC over voltage, input under voltage, input phase loss, output phase loss, under load, I <sub>2</sub> x t motor protection, PTC input	
Keypad and Display	Multi-function LCD, 5 status LED's, user defined units, parameter setup, review and faults. RUN, STOP, RESET, FWD/REV, JOG, LOCAL/REMOTE	
ENVIRONMENT		
Installation Location	Altitude 1,000m or below, For outdoor applications the drive should be installed under a suitable cover to provide protection against potential damage caused by direct exposure to sun	
Protection level	IP66	
Ambient Temperature	-10°C to 50°C (Non-Condensing and not frozen)	
Storage Temperature	-25°C to 70°C	
Ambient Humidity	Below 90% RH (non-condensing)	
Vibration	Below 0.5g	