



ECM Motor with integrated Electronic Control for Commercial Refrigeration

**115/230V
24V**



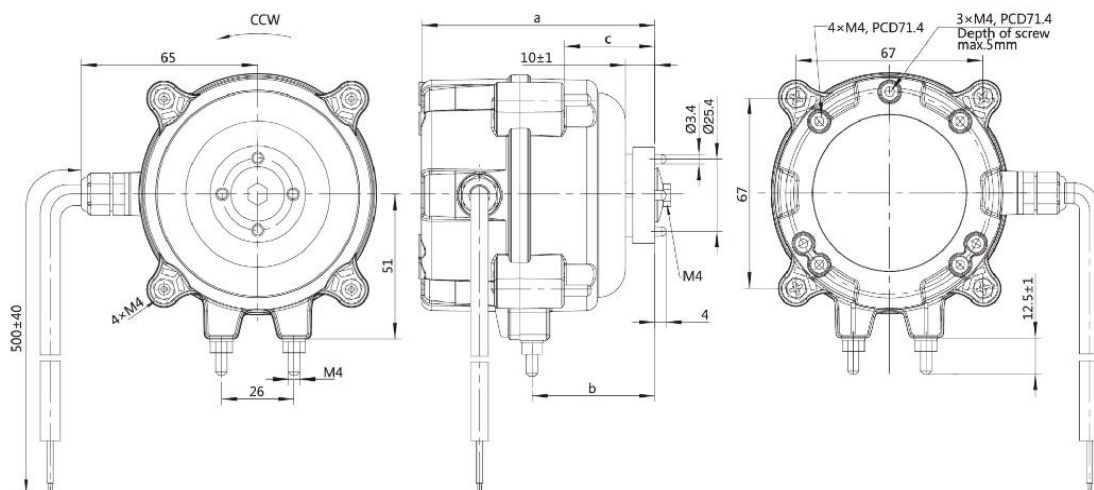
Model number	ECM7108	ECM7112	ECM7120
Voltage	115/230VAC 50/60hz / 24VDC		
Speed	Standard speed or user defined speed		
Input Power	up to 20W		
Special Designs	Timed reverse operation		
	Two speeds for day/night operation		
	0-10V or NTC variable speed smart control		
	Different power leads		
Service Time	50000 hours		
Approval	CCC, CE, VDE, UL, ATEX		
Warrant	5 years		
Weight	0.48kg	0.55kg	0.71kg

Motor	Voltage V	Frequency Hz	Current A	Speed rpm	Input/Output Power W	Protection IP	Approval
ECM7108B/A1	B=230 / A=115	50-60 / 60	0.017/0.034	1250	7 / 5	65	CE, CCC VDE, UL
ECM7108B/A2	230 / 115	50-60 / 60	0.021/0.040	1300		65	
ECM7108B/A3	230 / 115	50-60 / 60	0.026/0.051	1450		65	
ECM7108B/A4	230 / 115	50-60 / 60	0.028/0.054	1500		65	
ECM7108B/A5	230 / 115	50-60 / 60	0.030/0.058	1550		65	
ECM7108B/A6	230 / 115	50-60 / 60	0.034/0.066	1800		65	
ECM7112B/A1	230 / 115	50-60 / 60	0.060/0.110	1250	20 / 15	65	CE, CCC VDE, UL
ECM7112B/A2	230 / 115	50-60 / 60	0.065/0.125	1300		65	
ECM7112B/A3	230 / 115	50-60 / 60	0.069/0.133	1450		65	
ECM7112B/A4	230 / 115	50-60 / 60	0.074/0.146	1500		65	
ECM7112B/A5	230 / 115	50-60 / 60	0.078/0.154	1550		65	
ECM7112B/A6	230 / 115	50-60 / 60	0.078/0.156	1800		65	
ECM7120B/A1	230 / 115	50-60 / 60	0.065/0.124	1250	32 / 20	65	CE, CCC VDE, UL
ECM7120B/A2	230 / 115	50-60 / 60	0.073/0.145	1300		65	
ECM7120B/A3	230 / 115	50-60 / 60	0.083/0.162	1450		65	
ECM7120B/A4	230 / 115	50-60 / 60	0.082/0.161	1500		65	
ECM7120B/A5	230 / 115	50-60 / 60	0.089/0.164	1550		65	
ECM7120B/A6	230 / 115	50-60 / 60	0.108/0.214	1800		65	

Specifications

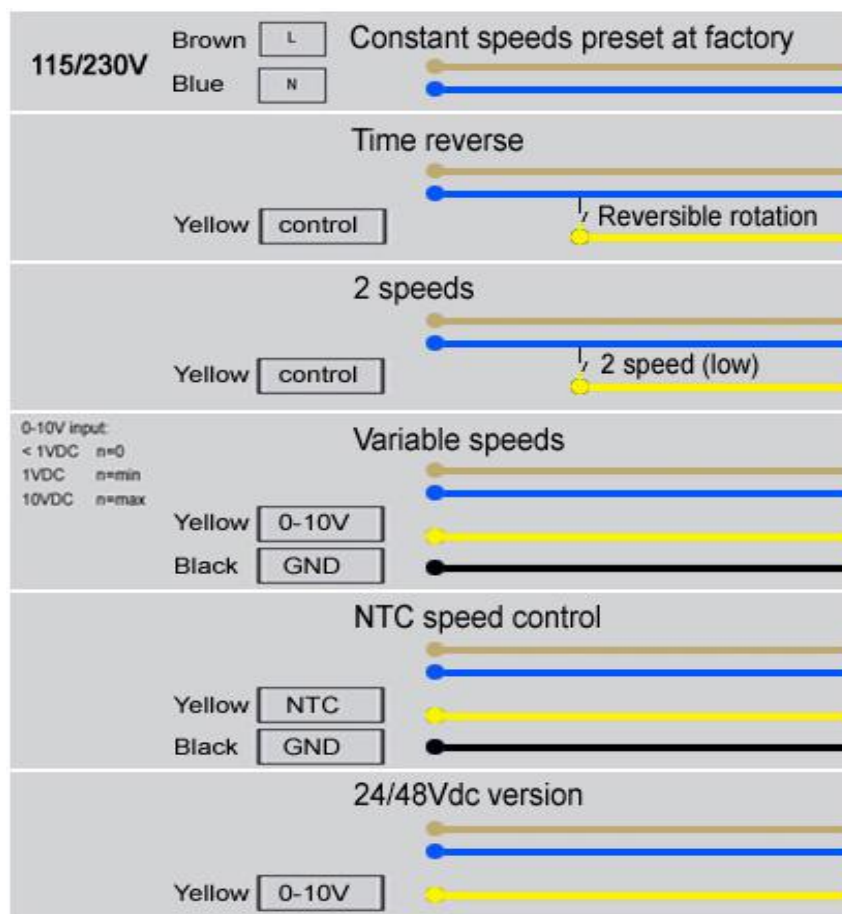
► Voltage Range	190V-254V / 100V-127V
► Electronic Control Safety Features	If the motor fails to start, locked rotor/stall detection switches the motor to standby mode, with automatic restart after 60 seconds. This software detection protects the motor with a timed restart algorithm to limit maximum winding temperature. Self-resetting thermal protection stops the motor if over-temperature occurs. The motor restarts when the winding temperature is back within the operation range.
► Moisture & Dust Protection	ECM motors are IP65. In all ECM motors a conformal coating is applied to the electronic control board for complete moisture protection.
► Direction of Rotation	Reversible. Direction of rotation can be either CCW (standard) or CW (upon request) as seen when facing the motor from shaft end.
► Two Speed Operation	Two speed operation allows for switching from full speed to low speed, reducing energy consumption. typically used when the compressor is not operational or when night mode is engaged.
► Timed reverse operation	motor reverses direction of rotation during defrost and keeps condenser coils clean and more efficient. this reduces energy and service costs.
► Insulation / Protection class	"B" or "F" / Class II
► Bearing	Maintenance-free ball bearings
► Operating temperature/humidity	- 30°C to + 50°C / 5% to 95% RH
► Package	30pcs/carton, 720pcs/pallet (104x104x106cm)

Product drawing



Model	ECM7108	ECM7112	ECM7120
a	83mm	87mm	95mm
b	43.5mm	43.5mm	43.5mm
c	32.5mm	32.5mm	32.5mm

Wire Diagram



ECM Motor



Matching Motor vs Fan

Speed	FAN					
	154	172	200	230	254	300
Aluminium fan 1300 r/min	22°	22°	22°	22°	22°	22°
	25°	25°	25°	25°	25°	25°
	28°	28°	28°	28°	28°	
	31°	31°	31°	31°	31°	
	34°	34°	34°	34°	34°	
Aluminium fan 1450 r/min	22°	22°	22°	22°	22°	22°
	25°	25°	25°	25°	25°	
	28°	28°	28°	28°	28°	
	31°	31°	31°	31°	31°	
	34°	34°	34°	34°	34°	
Aluminium fan 1550 r/min	22°	22°	22°	22°	22°	
	25°	25°	25°	25°	25°	
	28°	28°	28°	28°	28°	
	31°	31°	31°	31°		
	34°	34°	34°	34°		
Aluminium fan 1800 r/min	22°	22°	22°	22°	22°	
	25°	25°	25°	25°		
	28°	28°	28°	28°		
	31°	31°	31°	31°		
	34°	34°	34°			

ECM7108
ECM7112
ECM7120

Input Power With Axial Impeller

Type P in (W)	ECM 7108	ECM 7112	ECM 7120	ECM 7108	ECM 7112	ECM 7120	ECM 7108	ECM 7112	ECM 7120	ECM 7108	ECM 7112	ECM 7120	ECM 7108	ECM 7112	ECM 7120
	22°			25°			28°			31°			34°		
Fan Ø(mm) α															
Speed 1300 r / min															
154	2.8	–	–	3.1	–	–	3.3	–	–	3.9	–	–	4.3	–	–
172	3.5	2.9	–	3.7	3.2	–	4.2	3.5	–	5.2	4.5	–	5.9	5.0	–
200	4.7	3.8	–	5.8	4.7	–	6.5	5.6	–	–	6.7	–	–	8.1	–
230	–	7.8	7.3	–	8.6	8.4	–	12.8	9.6	–	14.8	11.0	–	19.8	13.2
254	–	10.5	9.7	–	14.3	12.2	–	17.8	14.8	–	20.8	17.2	–	–	20.4
Speed 1450 r / min															
154	3.2	–	–	3.6	–	–	4.0	–	–	5.1	–	–	6.0	–	–
172	3.7	3.2	–	4.1	3.7	–	4.8	4.4	–	6.2	5.6	–	6.8	6.2	–
200	5.4	4.8	–	6.5	5.7	–	–	7.2	–	–	9.6	–	–	11.2	–
230	–	9.8	9.2	–	11.3	10.6	–	13.6	12.6	–	15.8	14.2	–	–	18.1
254	–	13.8	12.6	–	19.4	16.1	–	–	19.8	–	–	22.4	–	–	26.6
Speed 1550 r / min															
154	3.7	–	–	4.2	–	–	4.8	–	–	6.2	–	–	6.7	–	–
172	4.6	3.8	–	5.2	4.3	–	5.5	5.3	–	7.1	6.8	–	–	7.6	–
200	6.2	5.6	–	–	6.8	–	–	8.4	–	–	11.2	–	–	13.7	–
230	–	11.5	11.8	–	14.3	14.2	–	17.5	15.6	–	20.4	18.6	–	–	22.4
254	–	17.2	15.7	–	–	20.8	–	–	25.2	–	–	29	–	–	–
Speed 1800 r / min															
154	4.1	–	–	4.5	–	–	5.3	–	–	6.7	–	–	–	7.5	–
172	5.7	5.0	–	6.7	5.9	–	–	7.2	–	–	9.6	–	–	11.2	–
200	–	8.3	–	–	9.9	–	–	12.4	–	–	17.5	16.2	–	–	18.4
230	–	17.8	16.2	–	–	19.2	–	–	22.4	–	–	25.6	–	–	–
254	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–