Standard Specification

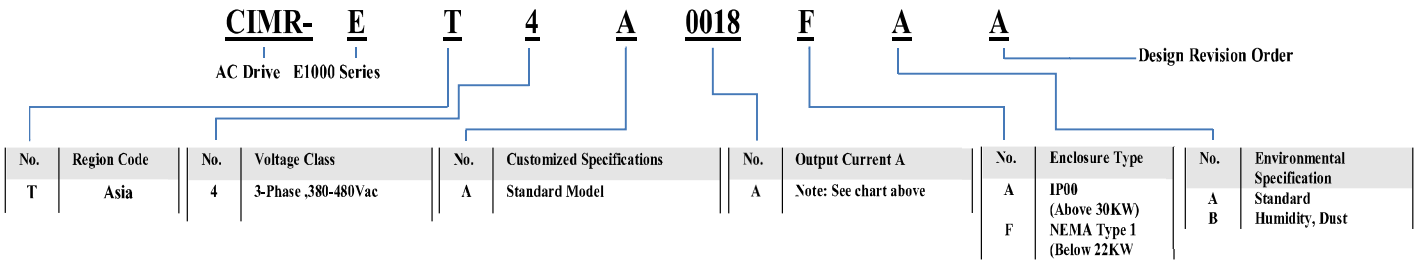
400V Class (Three Phase)

Type		Specifications												
Model: CIMR-E□4A		0002	0004	005	007	009	0011	0018	0023	0031	0038	0044	0058	0072	0088
Max. Applicable Motor Capacity(KW) <1>		0.75	1.5	2.2	3	3.7	5.5	7.5	11	15	18.5	22	30	37	45
Input	Rated Input Current (A) <2>	2.1	4.3	5.9	8.1	9.4	14	20	24	38	44	52	58	71	86
Output	Rated Output Capacity (KVA) <3>	1.6	3.1	4.1	5.3	6.7	8.5	13.3	17.5	24	29	34	44	55	67
	Rated Output Current(A) <4>	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38	44	58	72	88
	Overload Tolerance	120% of rated output current for 60 s													
	Carrier Frequency	1 ~15kHz (Carrier frequency can be set by the user)													
	Max. Output Voltage(V)	Three-Phase 380 ~ 480V (Relative to Input Voltage)													
	Max. Output Frequency(Hz)	400Hz (User-set)													
Power	Rated Voltage / Rated Frequency	AC: Three-Phase 380 ~ 480V 50/60Hz DC: 510 ~ 680V													
	Allowable Voltage Fluctuation	-15 ~ 10%													
	Allowable Frequency Fluctuation	±5%													
	Power Supply (KVA)	2.3	4.3	6.1	8.1	10.0	14.5	19.4	28.4	37.5	46.6	54.9	53	64.9	78.6

Type		Specifications											
Model: CIMR-E 4A		0103	0139	0165	0208	0250	0296	0362	0414	0515	0675	0930	1200
Max. Applicable Motor Capacity(KW) <1>		55	75	90	110	132	160	185	220	250	355	500	630
Input	Rated Input Current (A) <2>	105	142	170	207	248	300	346	410	465	657	922	1158
Output	Rated Output Capacity (KVA) <3>	78	106	126	159	191	226	276	316	392	514	709	915
	Rated Output Current(A) <4>	103	139	165	208	250	296	362	414	515	675	930	1200
	Overload Tolerance	120% of rated output current for 60 s (Note: Derating may be required for applications that start and stop frequently)											
	Carrier Frequency	1 ~10kHz (Carrier frequency can be set by the user)							1 ~5kHz (Carrier frequency can be set by the user)				
	Max. Output Voltage(V)	Three-Phase 380 ~ 480V (Relative to Input Voltage)											
	Max. Output Frequency(Hz)	200Hz (User-set)							150Hz (User-set)				
Power	Rated Voltage / Rated Frequency	AC: Three-Phase 380 ~ 480V 50/60Hz DC: 510 ~ 680V											
	Allowable Voltage Fluctuation	-15 ~ 10%											
	Allowable Frequency Fluctuation	±5%											
	Power Supply (KVA)	96.0	129.9	155.5	189	227	274	316	375	416	601	843	1059

<1> Based on motor data of Yaskawa 4-pole, 60Hz standard motors. Motor rated current should not exceed the drive rated output current.
<2> Value shown is for when operating at the rated output current. This value may fluctuate based on the power supply side impedance, as well as the input current.
<3> Value displayed is for when operating at the rated output current. Rated output capacity is calculated with a rated output voltage of 440V.
<4> Increasing the carrier frequency requires a reduction in current.

Model Designations



Common Specification

Item		Specifications
Control Characteristics	Control Method	The following control methods can be set using drive parameters: • V/f Control (V/f) • Open Loop Vector Control for PM (OLV/PM)
	Frequency Control Range	0.01 to 200 Hz
	Frequency Accuracy (Temperature Fluctuation)	Digital input: within ±0.01% of the max. output frequency (-10 to + 40°C) Analog input: within ±0.1% of the max. output frequency (25°C ± 10°C)
	Frequency Setting Resolution	Digital input: 0.01Hz Analog input: 0.03 Hz / 60 Hz (11 bit)
	Output Frequency Resolution	0.001 Hz
	Frequency Setting Signal	-10 to 10 V, 0 to 10 V, 0 to 20 mA, Pulse Train Input
	Starting Torque	V/f: 150% at 3 Hz OLV/PM: 100% at 5% speed
	Speed Control Range	V/f: 1:40 OLV/PM: 1:20
	Speed Response	OLV/PM: 10 Hz
	Accel/Decel Time	0.00 to 6000.0s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking Torque	Approximately 20% <1>
	V/f Characteristics	User-selected programs and V/f preset patterns possible
	Main Control Functions	Momentary Power Loss Ride-Thru, Speed Search, Overtorque/Undertorque Detection, 8 Step Speed (max), Accel/decel Switch, S-curve Accel/decel, 3-wire Sequence, Auto-turning, Dwell, Cooling Fan on/off Switch, Slip Compensation, Torque Compensation, Frequency Jump, Upper/lower Limits for Frequency Reference, DC Injection Braking at Start and Stop, Overexcitation Braking, High Slip Braking, PI Control (with sleep function or snooze function), Energy Saving Control, MEMOBUS/Modbus Comm. (RS-422/RS-485 max, 115.2 kbps), Fault Restart, DriveWorksEZ (customized function), Removable Terminal Block with Parameter Backup Function, KEB, Overexcitation Deceleration, Overvoltage Suppression, Motor Underload Detection, etc.
Protection Function	Motor Protection	Electronic thermal overload relay
	Momentary Overcurrent Protection	Drive stops when output current exceeds 175%
	Overload Protection	Drive stops after 60 s at 120% of rated output current<2>
	Overvoltage Protection	400 V class: Stops when DC bus exceeds approx. 820V
	Undervoltage Protection	400 V class: Stops when DC bus exceeds approx. 380V
	Momentary Power Loss Ride-Thru	Immediately stop after 15 ms or longer power loss. <3> Continuous operation during power loss to 2 s (standard)<4>
	Heatsink Overheat Protection	Thermistor
	Stall Prevention	Stall prevention is available during acceleration, deceleration, and during run.
	Ground Protection	Electronic circuit protection <5>
	DC Bus Charge LED	Remains lit until DC bus voltage falls below 50V
Environment	Area of Use	Indoors
	Ambient Temperature	-10 to 40°C (NEMA Type 1 enclosure), -10 to 50°C (IP00 enclosure), up to 60°C with output current derating
	Humidity	95 RH% or less (no condensation)
	Storage Temperature	-20 to 60°C (short-term temperature during transportation)
	Altitude	Up to 1000 meters <6>
	Shock	10 to 20 Hz: 9.8 m/s² <7> 20 to 55Hz : 5.9 m/s² (4A0002 to 4A1200)
Protection Design		IP00 enclosure, IP20/NEMA Type 1 enclosure <8>

<1> Ensure that Stall Prevention is disabled during deceleration (L3-04 = 0), when using a regenerative converter, a regenerative unit. The default setting for the Stall Prevention function will interfere with the braking resistor
<2> Overload protection may be triggered when operating with 120% of the rated output current if the output frequency is less than 6 Hz.
<3> May be shorter due to load conditions and motor speed
<4> A separate Momentary Power Loss Ride-Thru Unit is required for the drives CIMR-E□2A0004 through 2A0056 and 4A0002 through 4A0031 if the application needs to continue running during a momentary power loss up to 2 s.
<5> Ground protection cannot be provided when the impedance of the ground fault path is too low, or when the drive is powered up while a ground fault is present at the output.
<6> Up to 3000 m with output current and voltage derating.
<7> Models CIMR-E□4A0930 and 4A1200 are rated at 5.9 m/s²
<8> Removing the top protective cover from a NEMA Type 1 enclosure drive voids the NEMA Type 1 protection but still keeps IP20 conformity. This is applicable to models CIMR-E□4A0002 to 4A0044.