

Mini-Economic AC Inverter

EI-450 Series

220V Class (1-Phase Input) 1HP~ 3 HP

220V Class (3-Phase Input) 1HP~7.5HP

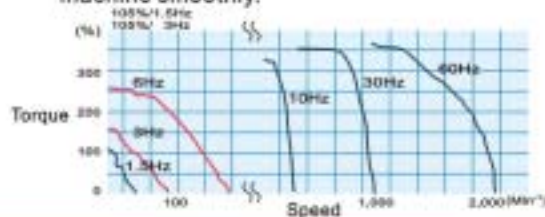
440V Class (3-Phase Input) 1HP~10 HP



FEATURE 1

Full-range · Automatic Torque Boost

- High starting torque (150%/ 3Hz) to start the machine smoothly.



Complete Protective Functions

- High-speed current limit to prevent over current (200% or more of the rated current), tripless operation (Momentary power loss restart, stall prevention, fault reset)
- Built-in rush current limited circuit
- Ground fault protection

FEATURE 2

Multiple Functions



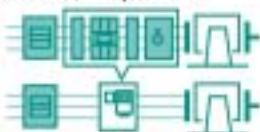
- Multi-speed setting (up to 9 steps) · 2-step acceleration/ deceleration, 2-step jump frequency, UP/DOWN selection, jog command...etc.
- Full-range automatic torque boost, slip compensation, stall prevention, over torque detection, DC injection braking...etc.
- Remote speed reference : 0~10VDC, 4~20MA · 0~20MA, multifunction input and output terminal, analog output monitor, NPN and PNP input signal switch
- MODBUS message format, RS485 series communication card available (Optional accessory)
- Built-in digital keypad operator (RCUS-450) with complex digital keypad operator (RCU-450) (Optional accessory)

FEATURE 3

Broad Application

Substitute Magnetic Contact

- No contact ensures, no transmission and maintenance requested.



Single Phase Power Input

- Using single-phase power drives three-phase motor to rise the efficiency.



Food Processing Machine

- The operation speed can be changed by using multi-speed functions (up to 9-step speed) and pre-set speed.



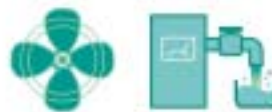
Conveyer

- Soft start/stop function enables goods to stand still on conveyer.



Flow Machine(Fan · Pump)

- Changing motor speed smoothly makes the best of flow to save energy.



Standard Mechanization

- The machine controlled by the inverter/drive can be used with local power frequency (50/60 Hz).



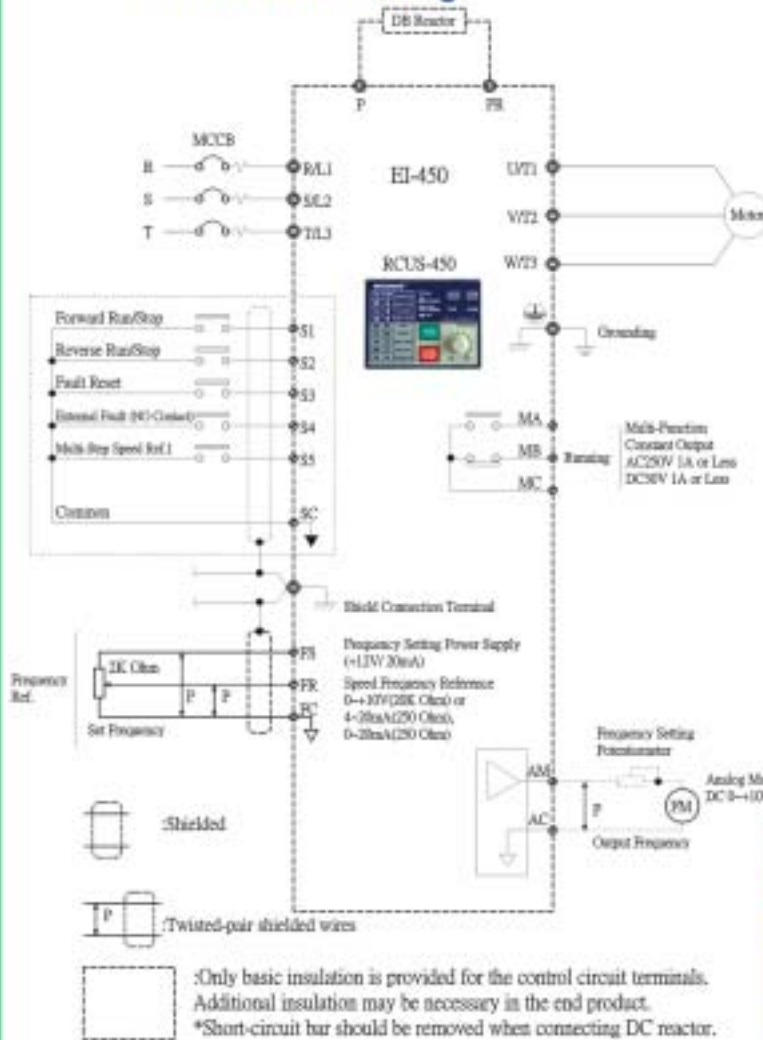
Standard Specification

Voltage Class		220V Class Single-phase			220V Class 3-phase				440V Class 3-phase							
Model EI-450-		S1L	S2L	S3L	O1L	O2L	O3L	O5L	O7L	O1H	O2H	O3H	O5H	O7H	O1H	
Max. Application Motor Output (HP)		1	2	3	1	2	3	5	7.5	1	2	3	5	7.5	10	
Max. Application Motor Output (KW)		0.75	1.5	2.2	0.75	1.5	2.2	3.7	5.5	0.75	1.5	2.2	3.7	5.5	7.5	
Output Features	Rated Output Current (A)	5	8	12	5	8	12	16	25	2.5	4	6	8	15	18	
	Max. Output Voltage (V)	3-phase 200-230V (Proportional to input voltage)			3-phase 200-230V (Proportional to input voltage)				3-phase 380-460V (Proportional to input voltage)							
	Max. Output Frequency (Hz)	400Hz (Programmable)														
Power Supply	Rated Input Voltage and Frequency	Single-phase 200-230V 50/60Hz			3-phase 200-230V 50/60Hz				3-phase 380-460V 50/60Hz							
	Allowable Voltage Fluctuation	-15 ~ +10%														
	Allowable Frequency Fluctuation	± 5%														
Control Features	Control Method	Sine wave PWM (V/F control)														
	Frequency Control Range	0.1 ~ 400Hz														
	Frequency Accuracy (Temperature Change)	Digital reference: ±0.01% (-10°C ~ +60°C) Analog reference: ±0.5% (+25°C ~ ±10°C)														
	Frequency Setting Resolution	Digital reference: 0.1Hz (less than 100Hz) · 1Hz(100Hz or more) Analog reference: 1/1000 of max. output frequency														
	Output Frequency Resolution	0.01 Hz														
	Overload Capacity	150% rated output current for one minute														
	Frequency Reference Signal	DoD ~ +10V(20K Ω), 4 ~ 20mA(250 Ω), 0 ~ 20mA(250 Ω) ; Frequency setting potentiometer (Selectable)														
	Accel/ Decel Time	0.1~999sec. (2 accel/decel time are independently programmed)														
	Braking Torque	Short-term average deceleration torque : 1HP : 100% or more, 2HP : 50% or more, 3HP or more : 20% or more Continuous regenerative torque : Approx.: 20% (150% with optional braking resistor, braking transistor built-in)														
	V/F Characteristics	Possible to program any V/F pattern														
Protective Features	Motor Overload Protection	Electronic thermal overload relay														
	Instantaneous Over Current	Motor coasts to a stop at approx. 250% of inverter rated current														
	Overload	Motor coasts to a stop after 1 minute at 150% of inverter rated output current														
	Overvoltage	Motor coasts to a stop if DC bus voltage exceeds 410V (220V Class) Motor coasts to a stop if DC bus voltage exceeds 620V (440V Class)														
	Undervoltage	Motor coasts to a stop if DC bus voltage less than 200V (220V Class) Motor coasts to a stop if DC bus voltage less than 400V (440V Class)														
	Momentary Power Loss	Following items are selectable: Stops if power loss is less than 15ms or longer (Factory defined); Continuous operation if power loss is approx. 0.5s or shorter/ Continuous operation														
	Cooling Fin Overheat	Protected by electronic circuit														
	Stall Prevention Level	Can be set individual level during accel/running, enable/disable provided available during deceleration														
	Cooling Fan Fault	Protected by electronic circuit (fan lock detection)														
	Ground Fault	Protected by electronic circuit (overcurrent level)														
Other Features	Power Charge Indication	ON until the DC bus voltage becomes 60V or less														
	Multi-Function Input	Four of the following input signals are selectable: Reverse command, forward/reverse run (3-wire sequence), external fault, fault reset, multi-step speed operation, jog command, accel/decel time select, external baseblock, speed search command, UP/DOWN command, accel/decel hold command, LOCAL/REMOTE selection, communication/control circuit terminal selection, emergency stop fault, emergency stop alarm, self-test														
	Multi-Function Output	Following output signals are selectable (1C contact output) : Fault, running, zero speed, at frequency, frequency detection (output frequency \leq or \geq set value), during over torque detection, minor error, during baseblock, operation mode, inverter run ready, during fault retry, during UV, during reverse runs, during speed search														
	Standard Functions	Full-range automatic torque boost, slip compensation, 9-step speed operation (Max.), Momentary power loss at restart, frequency reference bias/gain, fault reset, speed search, reference upper/lower limit setting, overtorque detection, frequency hold command, DC injection braking current/ time at start/ stop frequency, accel/decel time select, accel/decel hold command, accel/decel S pattern, frequency reference with built-in potentiometer, frequency reference setting, constants copy (accessory option)														
	Display	Status Indicator LED	RUN and ALARM provided as standard LEDs													
	Digital Operator	Available to monitor frequency reference, output frequency, output current														
Environmental Conditions	Terminals	Main circuit : screw terminals Control circuit : plug-in screw terminal														
	Wiring Distance between Inverter and Motor	100M or less														
	Enclosure	Ip20														
Environmental Conditions	Cooling Method	Forced air cooling														
	Ambient Temperature	-10°C ~ +50°C (not frozen)														
	Humidity	90%RH or less (non-condensing)														
	Storage Temperature*1	-20 °C ~ +60 °C														
	Location	Indoor (free from corrosive gases or dust)														
	Elevation	1000M or more														
Vibration	Up to 9.8m/s ² (1G) at 10 ~ 20Hz · Up to 2m/s ² (0.2G) at 20 ~ 50Hz															

*1 Storage Temperature during shipping (for short period).

FEATURE 5

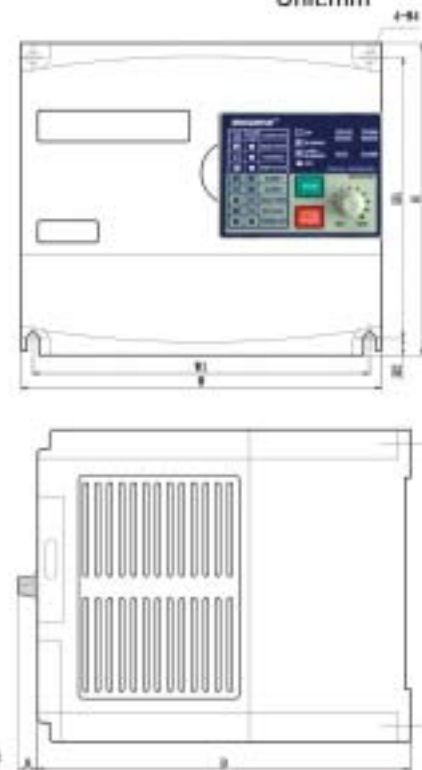
Standard Wiring



FEATURE 6

Dimension

Unit:mm



Voltage Class	Capacity (HP)	W	H	D	W1	H1	H2	Mass
220V single-phase	1HP	98	130	131	88	117	7	0.9
	2HP	129	130	153	117	118	6	1.5
	3HP	150	130	155	137	117	7	1.8
220V 3-phase	1HP	98	130	131	88	117	7	0.9
	2HP	129	130	153	117	118	6	1.5
	3HP	150	130	155	137	117	7	1.8
	5HP	187	198	186	175	186	5	5.0
440V 3-phase	1HP	98	130	131	88	117	7	0.9
	2HP	129	130	153	117	118	6	1.5
	3HP	150	130	155	137	117	7	1.8
	5HP	187	198	186	175	186	5	5.0
	10HP	187	198	186	175	186	5	5.0

FEATURE 7

Digital Operator (RCUS-450) User Instruction



Digital Operator (RCU-450) User Instruction



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