

Autonics 3-Phase, LED Display Slim Power Controller SPR3 Series

INSTRUCTION MANUAL



Thank you for choosing our Autonics product. Please read the following safety considerations before use.

Safety Considerations

Please observe all safety considerations for safe and proper product operation to avoid hazards. ⚠ symbol represents caution due to special circumstances in which hazards may occur.

- Warning** Failure to follow these instructions may result in serious injury or death.
- Caution** Failure to follow these instructions may result in personal injury or product damage.

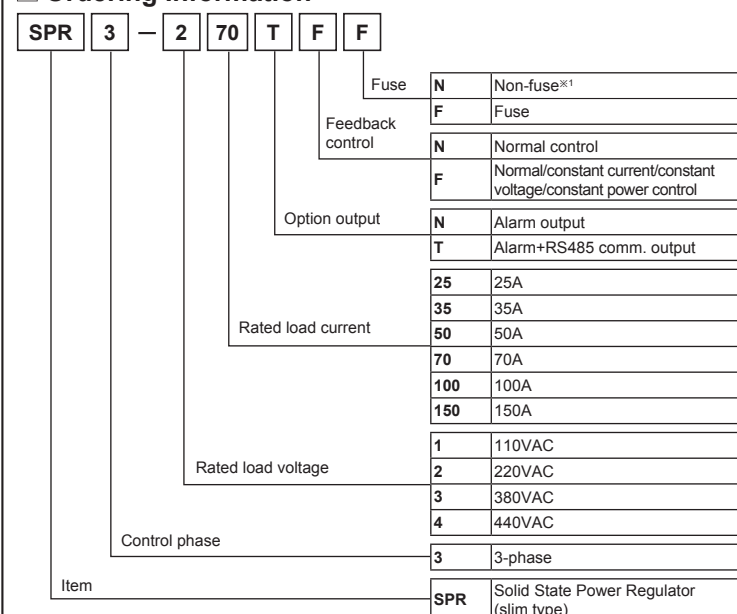
Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.) Failure to follow this instruction may result in fire, personal injury, or economic loss.
- Install on the device panel, and ground to the bolt for grounding separately.** Failure to follow this instruction may result in electric shock or fire.
- Do not connect, repair, or inspect the unit while connected to a power source.** Failure to follow this instruction may result in electric shock or fire.
- Check 'Connections' before wiring.** Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.** Failure to follow this instruction may result in electric shock or fire.

Caution

- Use the unit within the rated specifications.** Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.** Failure to follow this instruction may result in electric shock or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.** Failure to follow this instruction may result in fire or explosion.
- Keep metal chip, dust, and wire residue from flowing into the unit.** Failure to follow this instruction may result in fire or product damage.
- Since leakage current still flows right after turning off the power or in the output OFF status, do not touch the load terminal.** Failure to follow this instruction may result in electric shock.

Ordering Information



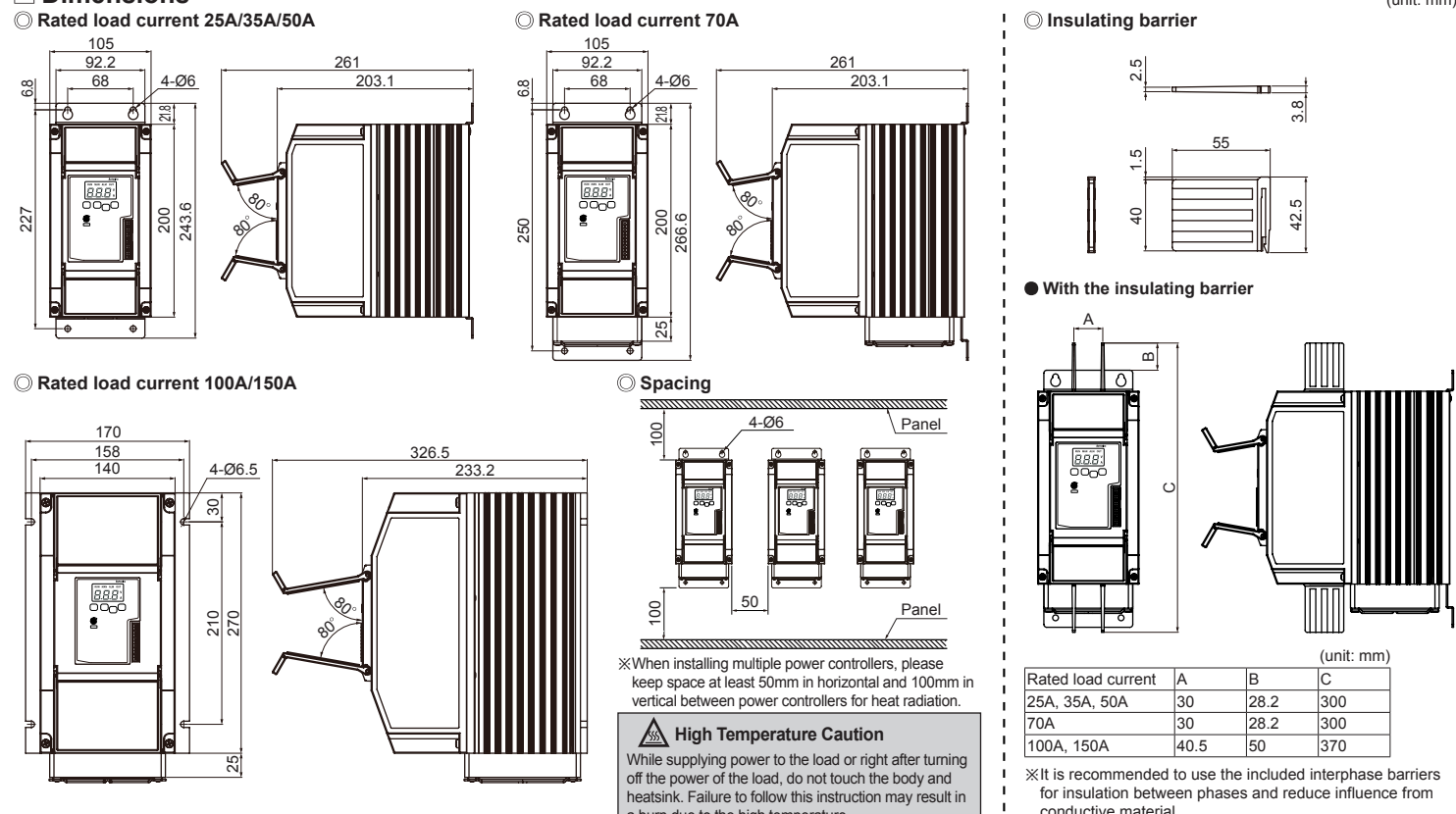
※1: Product is not equipped with a rapid fuse inside. Install the suitable fuse for rated load current of the model separately. (The performance of the product is guaranteed only when using the fuse provided by us.)
 ※The above specifications are subject to change and some models may be discontinued without notice.
 ※Be sure to follow cautions written in the instruction manual, user manual, and the technical descriptions (catalog, homepage).

Specifications

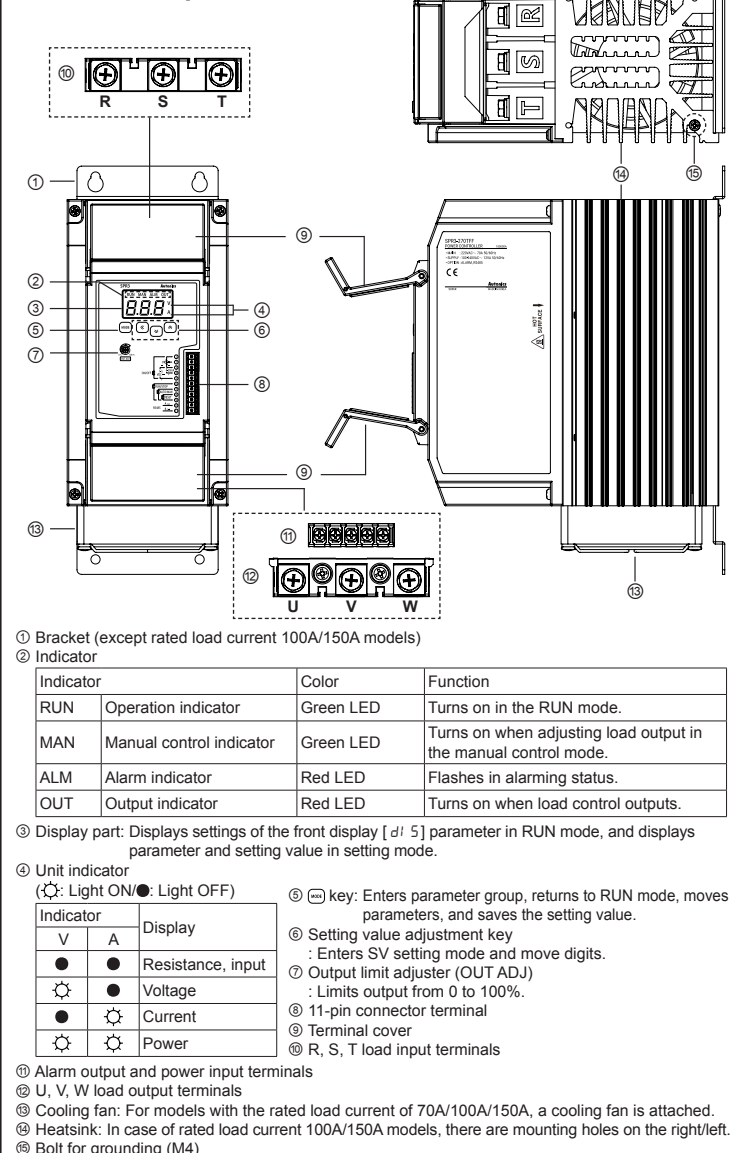
Model	SPR3-1	SPR3-2	SPR3-3	SPR3-4
Control phase	3-phase			
Rated load voltage (50/60Hz)	110VAC~	220VAC~	380VAC~	440VAC~
Power supply	100-240VAC ~ 50/60Hz			
Min. load current	1A			
Permissible voltage range	90 to 110% of rated voltage			
Power consumption	• Rated load current 25A/35A/50A: max. 14VA • Rated load current 70A: max. 22VA • Rated load current 100A/150A: max. 32VA			
Display method	3-digit 7-segment LED			
Indicator	• Operation indicator/Manual control indicator: green LED • Alarm indicator/output indicator/unit (V, A) indicator: red LED			
Control method	• Phase control: normal control mode, constant current/constant voltage/constant power feedback control mode • Cycle control: fixed cycle control mode • ON/OFF control			
Applied load	• Phase control, ON/OFF control: resistance load, inductive load • Cycle control: resistance load			
Control input	• Auto control: DC4-20mA, 1-5VDC, ON/OFF contact (no-voltage input), pulse voltage (5-12VDC)~ • Manual control: outside adjuster (10kΩ), inside adjuster (output limit)			
Digital input (DI)	RUN/STOP switching, AUTO/MAN switching, RESET			
Output	Alarm	250VAC ~ 3A, 30VDC ~ 3A, 1c resistive load		
Output range	Communication	RS485 communication output (Modbus RTU method), max. connection: 31 units		
Output accuracy	• Phase control: 0 to 98% • Cycle control: 0 to 100% • ON/OFF control: 0%, 100% • Normal control: within ±10% F.S. of rated load voltage • Constant current feedback control: within ±3% F.S. of rated load current • Constant voltage feedback control: within ±3% F.S. of rated load voltage • Constant power feedback control: within ±3% F.S. of rated load power			
Set method	By front keys, by communication			
Functions	Output limit (OUT ADJ.), AUTO/MAN selection, control method selection, RESET, SOFT START, SOFT UP/DOWN, output high/low limit, input correction, input slope correction, monitoring (control input, load voltage/current/power/resistance, power supply frequency, heatsink temperature)			
Alarm	Overcurrent alarm, overvoltage alarm, fuse break alarm, SCR error alarm, heater break alarm, heatsink overheat alarm • Rated load current 25A/35A/50A: natural cooling • Rated load current 70A/100A/150A: forced air cooling (with the cooling fan)			
Cooling method	• Normal control: within ±10% F.S. of rated load voltage • Constant current feedback control: within ±3% F.S. of rated load current • Constant voltage feedback control: within ±3% F.S. of rated load voltage • Constant power feedback control: within ±3% F.S. of rated load power			
Insulation resistance	Over 200MΩ (at 500VDC megger)			
Dielectric strength	2,000VAC 50/60Hz for 1 min (between input terminals and power terminals)			
Output leakage current	Max. 10mA Arms			
Noise immunity	±2kV the square wave noise (pulse width: 1μs) by the noise simulator			
Memory retention	Approx. 10 years (when using non-volatile semiconductor memory type)			
Vibration	Mechanical	0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z direction for 2 hours		
Malfunction	Mechanical	0.5mm amplitude at frequency of 5 to 55Hz in each X, Y, Z direction for 10 min		
Environment	Ambient temp.	-10 to 55°C, storage: -20 to 80°C		
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH		
Accessory	11-pin connector, insulating barrier: 4			
Approval	CE			
Weight*1	• Rated load current 25A/35A/50A: approx. 4.9kg (approx. 4.1kg) • Rated load current 70A: approx. 5kg (approx. 4.2kg) • Rated load current 100A/150A: approx. 9.7kg (approx. 8.7kg)			

※1: The weight includes packaging. The weight in parenthesis is for unit only.
 ※Environment resistance is rated at no freezing or condensation.

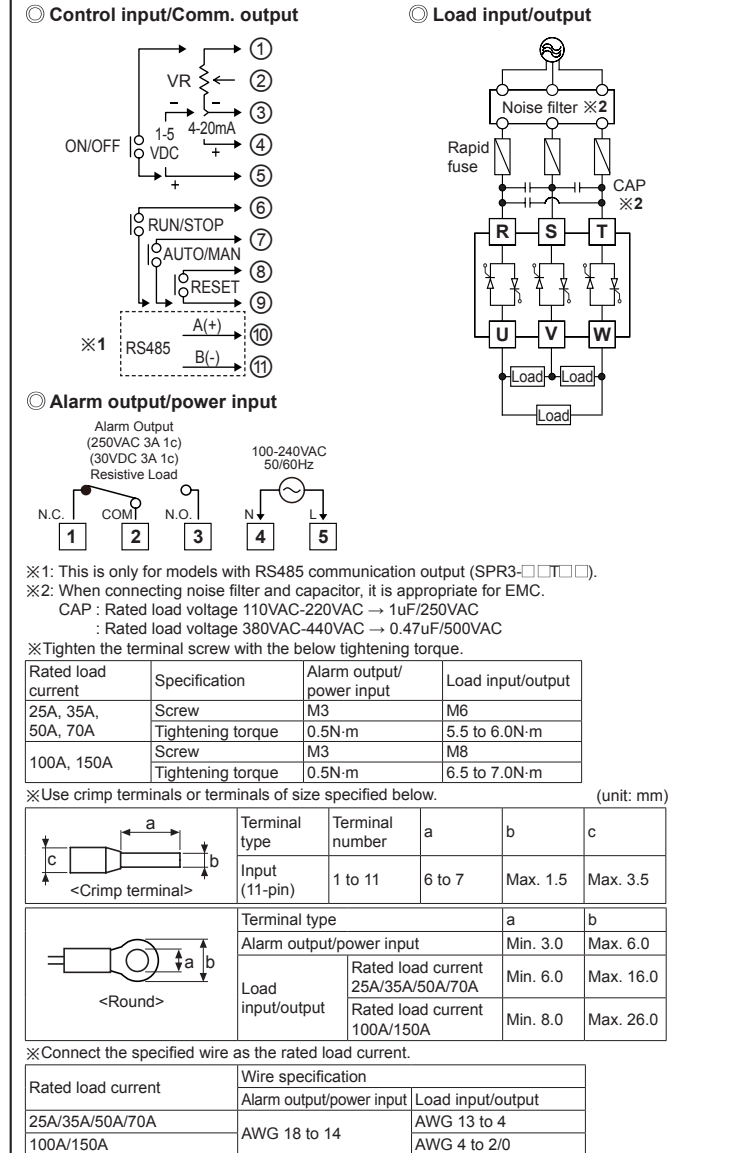
Dimensions



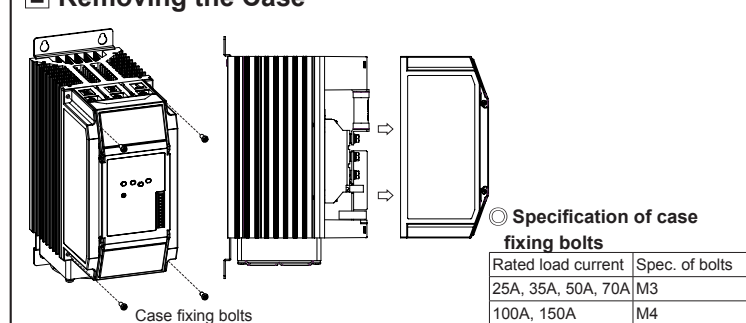
Unit Description



Connections



Removing the Case



Replacement of Fuse

