

AC Electronic Analogue Power Controller



- * Analogue Controller for accurate process temperature control
- * Phase angle or Burst firing control of heaters
- * Current Loop Control: 0-20mA, 4-20 mA
- * Voltage Control: 0-10 VDC
- * Manual Control: 10k Ohm Potentiometer
- * Reverse Action operation possible
- * Rated operational Voltage range: 230 - 480 VAC
- * Rated operational current up to 30 or 50Amp AC1
- * Built-In EMC Filter



Product Description

Power Controller intended for analogue control of heaters or infrared lamps. The control input is internally isolated from line and supply. Current Loop, Voltage or Potentiometer modes are selectable. The temperature is controlled in phase angle or burst firing mode by the internal microcomputer. The control mode and function is selected by two rotary switches

Item Selection in connection with Burst Firing or Phase Angle control mode

Line Voltage	Control Signal	Max. Load Power	Item No.
230 VAC 50/60Hz	0-20 mA / 20-0 mA 4-20 mA / 20-4 mA 0-10 Volt / 10-0 Volt 0-10 k / 10-0 kOhm	0 - 6.9 kW	SPC 1 AD 2330
400 VAC 50/60Hz		0 - 12.0 kW	SPC 1 AD 4030
230 VAC 50/60Hz		0 - 11.5 kW	SPC 1 AD 2350
400 VAC 50/60Hz		0 - 20.0 kW	SPC 1 AD 4050

Item Selection in connection with Transformer Loads

Line Voltage	Control Signal	Max. Load Current	Item No.
230 VAC 50/60Hz	Analogue	30 A AC-56a	SPC 1 AD 2330
400 VAC 50/60Hz	See above	30 A AC-56a	SPC 1 AD 4030

Output Specifications

	SPC 1 AD XX30	SPC 1 AD XX50
Operational current max. AC-51 Switching of resistive loads	30 A	50 A
Operational current max. AC-55b Switching of incandescent lamps	30 A	30 A
Operational current max. AC-56a Switching of transformers	30 A	30 A
Leakage current	1 mA AC max.	1 mA AC max.
Minimum operational current	10 mA AC	10 mA AC
Dutycycle	Continuous	

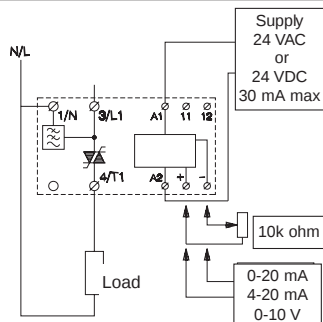
Current Derating for Applications	Amb. Temperature	SPC 1 AD XX30	SPC 1 AD XX50
Current derating in high temperature applications For operation in ambient temperatures exceeding 40°C at the AC-1 load the current must be derated as indicated	40 °C	30.0 A	50.0 A
	50 °C	25.0 A	40.0 A
	60 °C	20.0 A	30.0 A

Control Specifications	SPC 1 AD XXXX
Current Loop Control Voltage drop 3 Volt Max.	0 - 20 mA / 20 - 0 mA
Voltage Control Input resistance 300 kohm min.	1 - 10 V / 10 - 0 V
Manual Control with potentiometer	0 - 10 kohm / 10 - 0 kohm
Control Voltage supply	24 V AC or 24 V DC max. 30 mA

Specifications are subject to change without notice

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Wiring Diagram

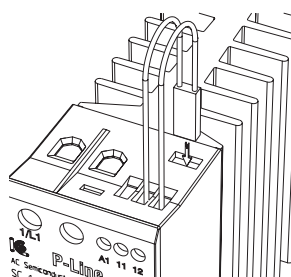


Main terminal 1/N-4/T1 & 3/L1-4/T1. Supply terminals A1-A2. + &- Control signal Terminal 11 and 12 have no connection with the internal circuit but are intended for connection to the optional thermal overload protection. See application information page 52-53

Thermal Specifications

Power dissipation for continuous operation PDmax.	1.2 W/A
Power dissipation for analogue mode	1.2 W / A x % input
Cooling method.	Natural convection
Mounting	Vertical +/-30°
Operating temperature range EN60947-4-3	-5°C to 40°C
Storage temperature EN60947-4-3	-20°C to 80°C

Thermal overload protection



Optional thermal overload protection is possible by inserting a thermostat in the slot on the right hand side of the contactor.
Type number UP62

Insulation Specifications

Rated insulation voltage	Ui 660 V
Rated impulse withstand voltage	Uimp. 4 kV
Rated insulation voltage between AC control inputs	Ui 300 V
Rated insulation voltage between DC control inputs	Ui 60 V
Installation category	III

EMC

This component meets the requirements of the product standard EN 60947-4-3 and is CE marked according to this standard.

Short-circuit co-ordination According to EN60947-4-3

See page 52-53

Contactor Type	Co-ordination Type 1	Co-ordination Type 2	
	Max. fuse / Operating Class	Ferraz	Siemens
SPC 1 AD 2330 / 4030	50 A gL / gG	660 RB 10-30	5SD4 60 500 V Max.
SPC 1 AD 2350 / 4050	50 A gL / gG	6.621CPURGA 22x58/50	5SD4 60 500 V Max.

Environment

Degree of protection	IP 20	Pollution degree	3
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Cable Wiring Information

See page 57

Approvals

CAN/CSA-C22.2 / UL Std No. 508

Dimension and Mounting Instruction

See page 57

Applications Information

See page 52-53

Overload Protection

See page 52-53

* This product has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.