

# 1 Phase AC Electronic Contactor



- \* Rated operational voltage up to 600VAC 50/60 Hz
- \* Rated operational current up to 15/30/50/63A AC-1
- \* Compact modular design 22.5, 45 or 90 mm
- \* Control voltage range:  
5-24 V DC or 24-230 V AC/DC
- \* LED Status indication
- \* IP-20 Protection
- \* Meets EN 60947-4-3 requirements
- \* Requires no additional components
- \* Built-in varistor protection



## Product Description and Item Selection

| Single Phase electronic contactor designed to switch various industrial loads e.g. heating elements, motors & lamps in 1 or 3 Ph applications. Zero Voltage turn-On reduces RFI | Line Voltage             | Control Voltage  | Item No 15A  | Item No 30A  | Item No 50A  | Item No 63A  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------|--------------|--------------|--------------|--------------|
|                                                                                                                                                                                 | 12 - 240 VAC<br>50/60 Hz | 5 - 24 V DC      | SC 1 DD 2315 | SC 1 DD 2330 | SC 1 DD 2350 | SC 1 DD 2363 |
|                                                                                                                                                                                 |                          | 24 - 230 V AC/DC | SC 1 DA 2315 | SC 1 DA 2330 | SC 1 DA 2350 | SC 1 DA 2363 |
|                                                                                                                                                                                 | 24 - 480 VAC<br>50/60 Hz | 5 - 24 V DC      | SC 1 DD 4015 | SC 1 DD 4030 | SC 1 DD 4050 | SC 1 DD 4063 |
|                                                                                                                                                                                 |                          | 24 - 230 V AC/DC | SC 1 DA 4015 | SC 1 DA 4030 | SC 1 DA 4050 | SC 1 DA 4063 |
|                                                                                                                                                                                 | 24 - 600 VAC<br>50/60 Hz | 5 - 24 V DC      | SC 1 DD 6015 | SC 1 DD 6030 | SC 1 DD 6050 | SC 1 DD 6063 |
|                                                                                                                                                                                 |                          | 24 - 230 V AC/DC | SC 1 DA 6015 | SC 1 DA 6030 | SC 1 DA 6050 | SC 1 DA 6063 |

| Output Specifications                                              | SC1DX/15A            | SC1DX/30A    | SC1DX/50A    | SC1DX/63A    |
|--------------------------------------------------------------------|----------------------|--------------|--------------|--------------|
| Heat load control Operational current AC-51 / AC-1                 | 15 A max.            | 30 A max.    | 50 A max.    | 63 A max.    |
| Motor load control Operational current AC-3                        | 15 A max.            | 15 A max.    | 15 A max.    | 30 A max.    |
| Motor load type SC1DX6015 Operational current AC-3                 | 10 A max.            |              |              |              |
| Lamp load (incandescent lamp) Operational current AC-55b           | 15 A max.            | 20 A max.    | 20 A max.    | 40 A max.    |
| Lamp load SC1DX6015 (incandescent lamp) Operational current AC-55b | 10 A max.            |              |              |              |
| Transformer load Operational current AC-56a                        | 15 A max.            | 15 A max.    | 15 A max.    | 30 A max.    |
| Leakage current                                                    | 1 mA AC max.         | 1 mA AC max. | 1 mA AC max. | 1 mA AC max. |
| Minimum operational current                                        | 10 mA AC             | 10 mA AC     | 10 mA AC     | 10 mA AC     |
| Duty cycle                                                         | Continuous operation |              |              |              |

| Current Derating                                                                                                                                                     | Amb. Temperature | SC1DX/15A | SC1DX/30A | SC1DX/50A | SC1DX/63A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|-----------|-----------|-----------|
| Current derating in high temperature applications For operation in ambient temperatures exceeding 40°C at the Load the current must be derated as shown in the table | 40°C             | 15.0 A    | 30.0 A    | 50.0 A    | 63.0 A    |
|                                                                                                                                                                      | 50°C             | 12.5 A    | 25.0 A    | 40.0 A    | 50.0 A    |
|                                                                                                                                                                      | 60°C             | 10.0 A    | 20.0 A    | 30.0 A    | 35.0 A    |
|                                                                                                                                                                      |                  |           |           |           |           |

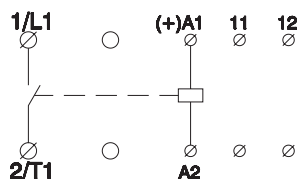
The manufacturer of the cabinets can normally provide the necessary data for the cabinet and guidelines for calculating the max. acceptable internal power dissipation.

| Control Specifications       | SC1 DD XXXX    | SC1 DA XXXX         |
|------------------------------|----------------|---------------------|
| Control Voltage range        | 5 - 24 V DC    | 24 - 230 V AC/DC    |
| Pick-up voltage max.         | 4.25 V DC      | 20.4 V AC/DC        |
| Drop out voltage min.        | 1.5 V DC       | 7.2 V AC/DC         |
| Control current / power max. | 15 mA @ 4 V DC | 1.5VA/6mA @ 24 V DC |
| Max. control voltage         | 32 V DC        | 253 V AC/DC         |
| Response time max.           | 1/2 cycle      | 1 cycle             |

Specifications are subject to change without notice

# 1 Phase AC Electronic Contactor

## Wiring Diagram

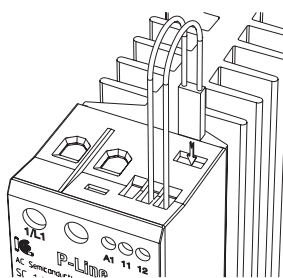


Main terminal 1/L1-2/T1  
Control terminals A1-A2  
Terminal 11 and 12 have no connection with the internal circuit, but are intended for connection to the optional thermal overload protection.  
See application hints for further details page 45

## Thermal Specifications

|                                                                     |                    |
|---------------------------------------------------------------------|--------------------|
| Power dissipation for continuous operation PDmax.                   | 1.2 W/A            |
| Power dissipation for intermittent operation PD                     | 1.2 W/ A dutycycle |
| Cooling method.                                                     | Natural convection |
| Mounting                                                            | Vertical +/-30°    |
| Operating temperature range EN60947-4-3                             | -5C° to 40°C       |
| Storage temperature EN60947-4-3                                     | -20C° to 80°C      |
| Max. operating temperature with current derating according to table | 60°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 |
| 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 49

| Contactor Type           | Co-ordination Type 1 | Co-ordination Type 2 |                      |
|--------------------------|----------------------|----------------------|----------------------|
|                          |                      | Ferraz               | Siemens              |
| SC1DX 2315 / 4015 / 6015 | 50 A gL / gG         | 660 RB 10-30         | 5SD4 50A 500 V Max.  |
| SC1DX 2330 / 4030 / 6030 | 50 A gL / gG         | 660 RB 10-30         | 5SD4 60A 500 V Max.  |
| SC1DX 2350 / 4050 / 6050 | 50 A gL / gG         | 6.621CPURGA 22x58/50 | 5SD4 60A 500 V Max.  |
| SC1DX 2363 / 4063 / 6063 | 80 A gL / gG         | 6.600CPURGA 22x58/80 | 5SD5 100A 500 V Max. |

## Environment

|                      |       |                  |   |
|----------------------|-------|------------------|---|
| Degree of protection | IP 20 | Pollution degree | 3 |
|----------------------|-------|------------------|---|

## Cable Wiring Information

See page 57

## Approvals

CAN/CSA-C22.2 / UL Std No. 508 (63A version pending)

## Dimension and Mounting Instruction

See page 57

## Applications Information

See page 49

## Overload Protection

See page 49

\* 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.