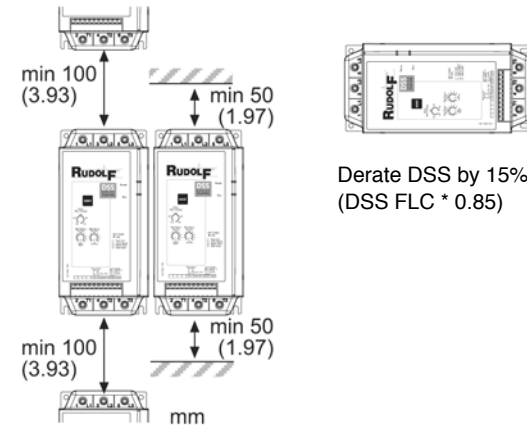
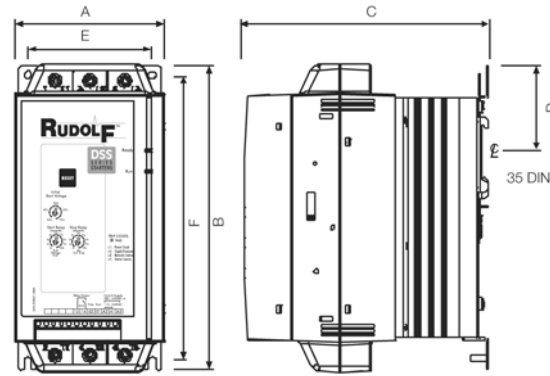


Dimension - DSSi/DSS Series

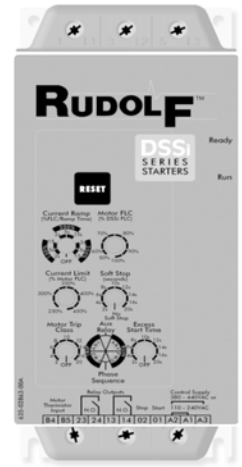


Derate DSS by 15% (DSS FLC * 0.85)

RUDOLF™ Digital Soft Starters DSS/DSSi 7.5kW to 110kW (400VAC)

Product Introduction

DSS and DSSi family are created to target at niche market whereby customer required only soft start and essential motor protection. With 11 models packed in 3 frame size, the rating are from 7.5kW to 110kW (400VAC) these two family provide a near complete range to cater for "just enough" requirement. Namely, to differential them, DSSi is a compact soft starter with current limit soft start and motor protection whereas the DSS provides soft start function via voltage ramp soft start and stop.



Trouble Shooting - DSSi Series

Ready	Description
Off x 1	Power Circuit: Check mains supply L1, L2, L3, motor circuit T1, T3 & T5 and soft starter SCRs.
Off x 2	Excess Start Time: Check load, increase Current Limit or adjust Excess Start Time setting.
Off x 3	Motor Overload: Allow motor to cool, reset soft starter and restart. Soft starter cannot be reset until motor has cooled adequately.
Off x 4	Motor Thermistor: Check motor ventilation and thermistor connection B1 & B2. Allow motor to cool.
Off x 5	Phase Imbalance: Check line current L1, L2 & L3.
Off x 6	Supply Frequency: Check supply frequency is in range.
Off x 7	Phase Sequence: Check for correct phase rotation.
Off x 8	Communications Failure; Check serial comms link to DSSi accessory module. Remove and refit accessory module.
Off x 9	Starter Comms Failure (between starter and accessory module): Remove and refit accessory module.

Corporate Introduction

Bridex Singapore Pte Ltd was founded in 1973 as a manufacturer of instruments transformer for the Asian market. We are the first local electrical switchgear components manufacturer that launches our own Asian identity – RUDOLF™.

Today we aim to become a knowledge-based, technology driven engineering organization, with emphasis on providing solution for electrical distribution and control, in area of instruments, distribution & protection and standard components. With our present headquarter in Singapore and subsidiaries that are located in Philippines, China and Australia, we are well equipped to service both local and Asia-Pacific countries.

Why use RUDOLF™ soft starter?

- a) To achieve smooth acceleration and deceleration reduces stress on motor and plant thus offering :
 - Lower plant maintenance costs
 - Less process waste
 - Minimise energy consumption
- b) With comparison with other types of motor starting method
 - cost saving over inverter for fixed speed application
 - extended motor life from the reduction of inrush current, mechanical stress and the improvement of power factor

Soft starter can be used in application for pumps, compressor, fan, process control, conveyors and forestry saw-milling just to name a few.

Ordering Format

R-DSS - [] - [] - []
R-DSSi - [] - [] - []

Product Code	kW @ 400V
R-DSS-007 / R-DSSi-007	7.5kW
R-DSS-015 / R-DSSi-015	15kW
R-DSS-018 / R-DSSi-018	18.5kW
R-DSS-022 / R-DSSi-022	22kW
R-DSS-030 / R-DSSi-030	30kW
R-DSS-037 / R-DSSi-037	37kW
R-DSS-045 / R-DSSi-045	45kW
R-DSS-055 / R-DSSi-055	55kW
R-DSS-075 / R-DSSi-075	75kW
R-DSS-090 / R-DSSi-090	90kW
R-DSS-110 / R-DSSi-110	110kW

Control Supply (A1, A2, A3)

C1	110~240 VAC & 380~440 VAC
C2	24 VAC/VDC

Mains Supply (L1, L2, L3)

V4	3Ø, 200~400 VAC, 45-66 Hz
V6	3Ø, 200~575 VAC, 45-66 Hz

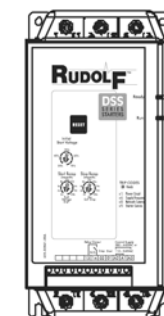
DSS Series

Ready	Description
Off x 1	Power Circuit: Check mains supply L1, L2, L3, motor circuit T1, T3 & T5 and soft starter SCRs.
Off x 6	Supply Frequency: Check supply frequency is in range.
Off x 8	Communications Failure (between soft starter and optional accessory module): Check plug connection.
Off x 9	Starter Comms Failure (between starter and accessory module): Remove and refit accessory module.

Selection Guide

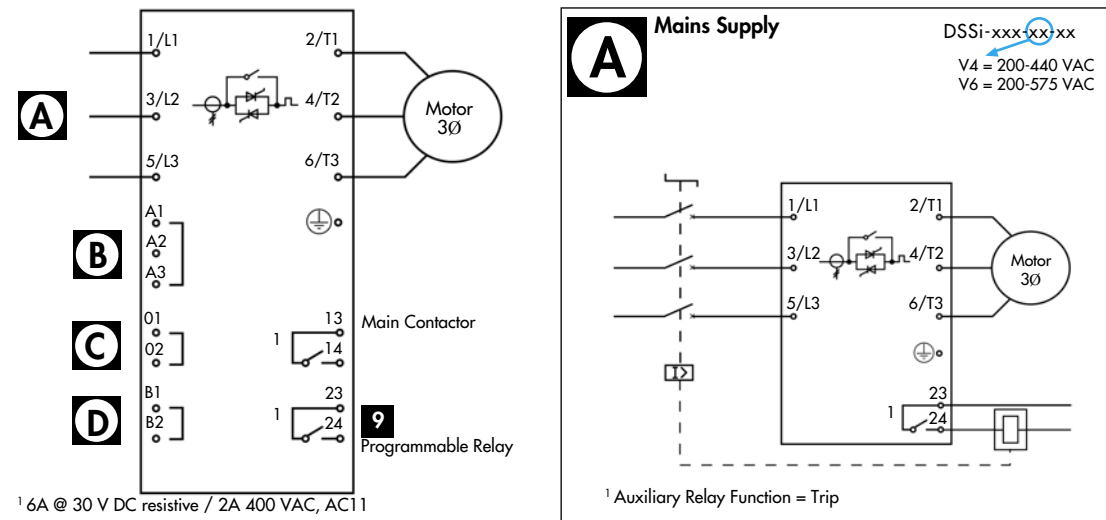
Product Code	Starter Rating				Dimension (mm)		
	AC53b 4-6:354	AC53b 4-20:340	AC53b 4-6:594	AC53b 4-20:580	Height	Width	Depth
R-DSS-007-V4-C1 / R-DSSi-007-V4-C1	18A	17A			203	98	165
R-DSS-015-V4-C1 / R-DSSi-015-V4-C1	34A	30A			203	98	165
R-DSS-018-V4-C1 / R-DSSi-018-V4-C1	42A	36A			203	98	165
R-DSS-022-V4-C1 / R-DSSi-022-V4-C1	48A	40A			203	98	165
R-DSS-030-V4-C1 / R-DSSi-030-V4-C1	60A	49A			203	98	165
R-DSS-037-V4-C1 / R-DSSi-037-V4-C1			75A	65A	215	145	193
R-DSS-045-V4-C1 / R-DSSi-045-V4-C1			85A	73A	215	145	193
R-DSS-055-V4-C1 / R-DSSi-055-V4-C1			100A	96A	215	145	193
R-DSS-075-V4-C1 / R-DSSi-075-V4-C1			140A	120A	240	202	214
R-DSS-090-V4-C1 / R-DSSi-090-V4-C1			170A	142A	240	202	214
R-DSS-110-V4-C1 / R-DSSi-110-V4-C1			200A	165A	240	202	214

Indication - DSS/DSSi Series

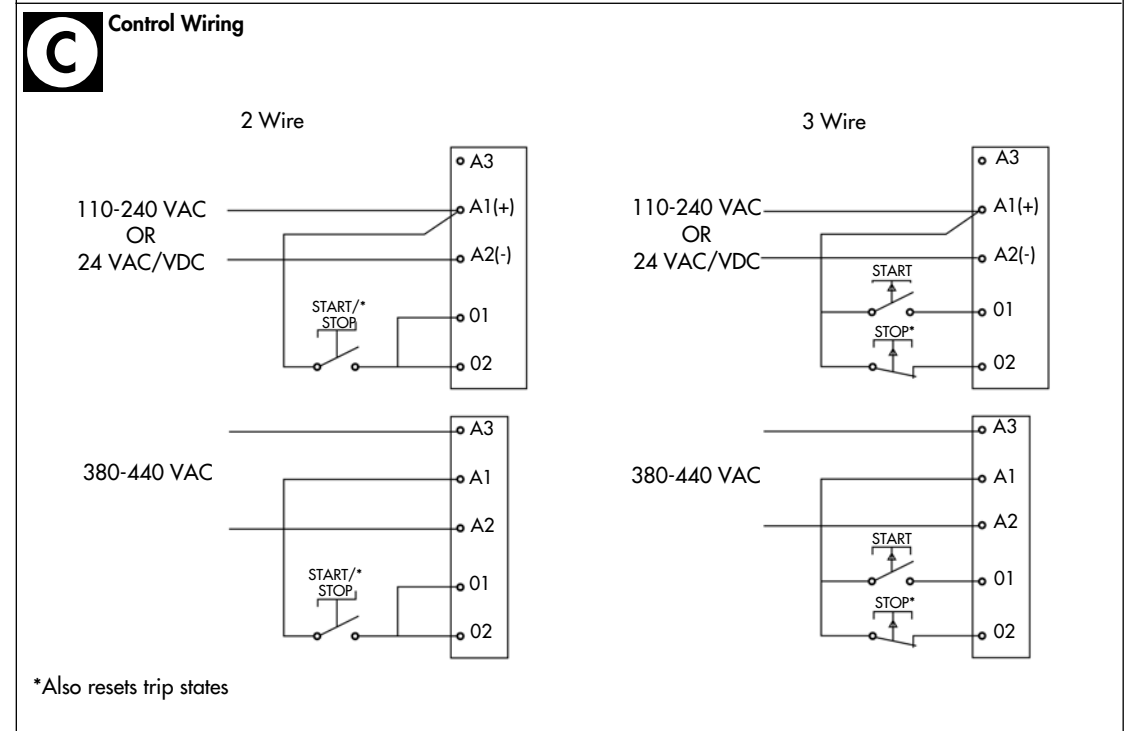
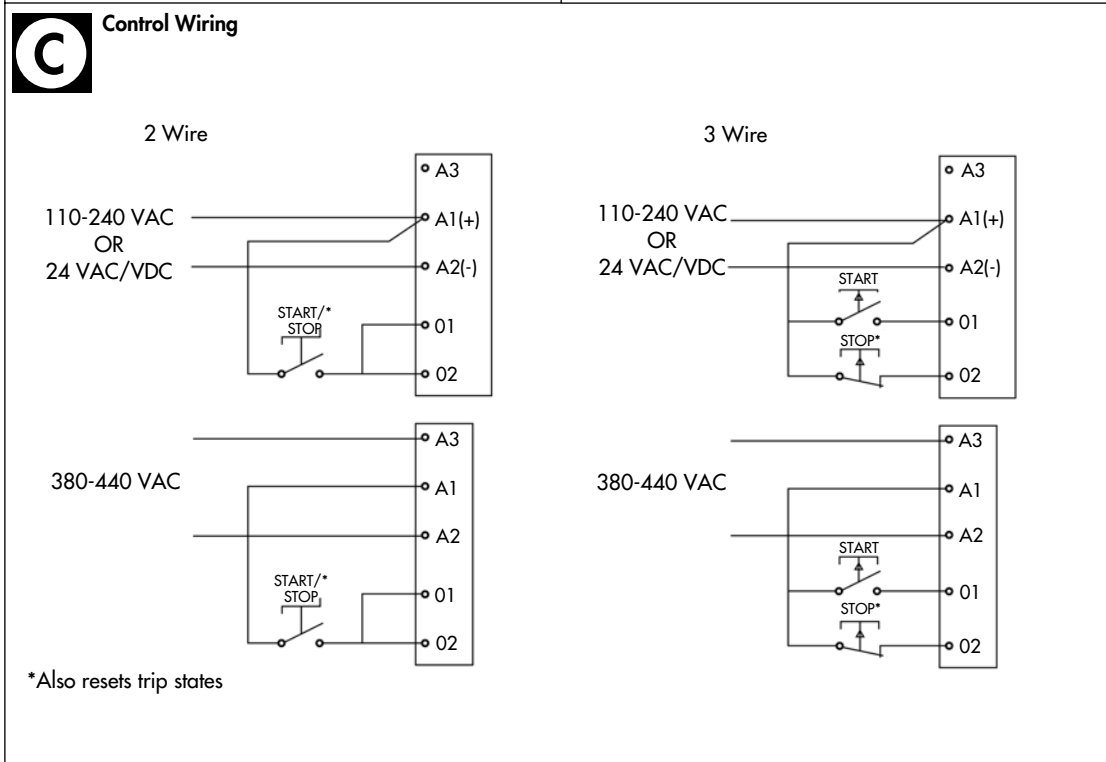
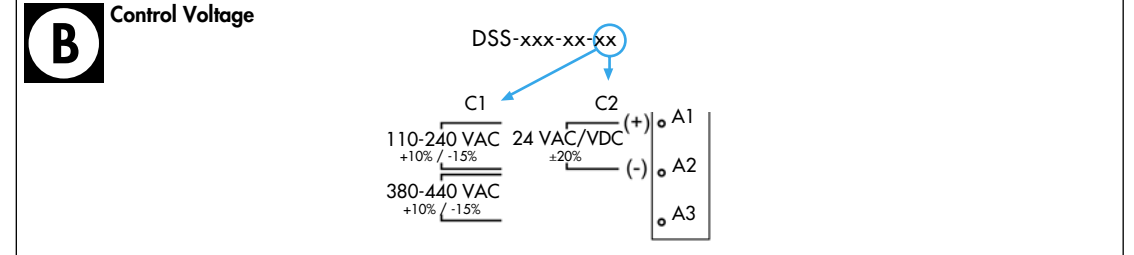
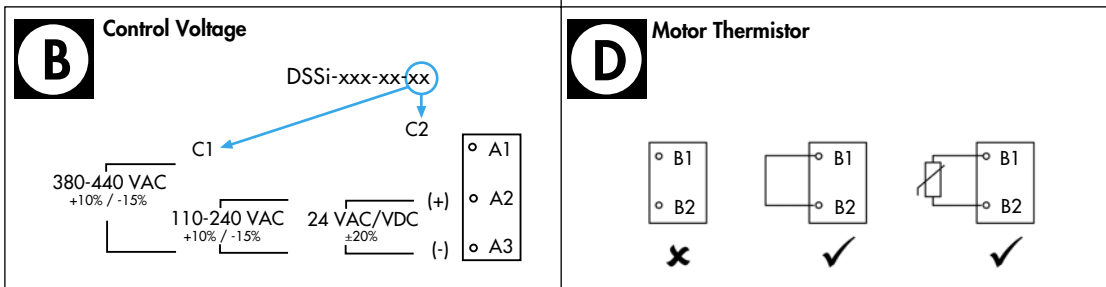
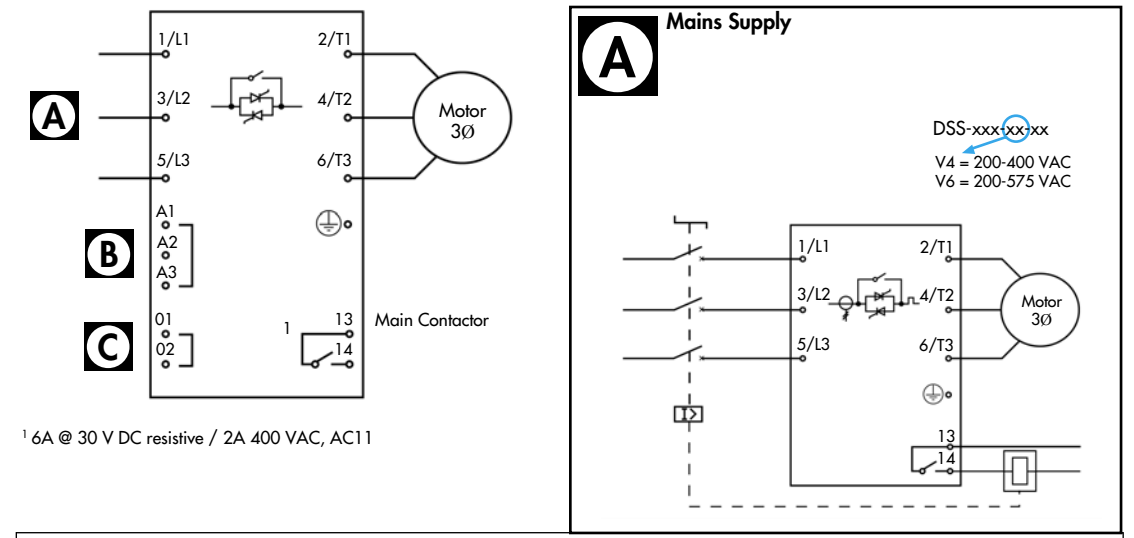


	Ready	Run
Off	No control power	Motor not running
On	Ready	Motor running at full speed
Flash	Starter tripped	Motor starting or stopping

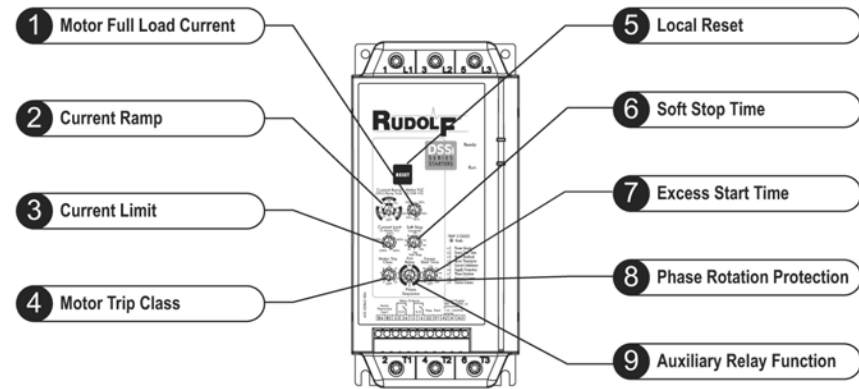
Schematic - DSSi Series



Schematic - DSS Series

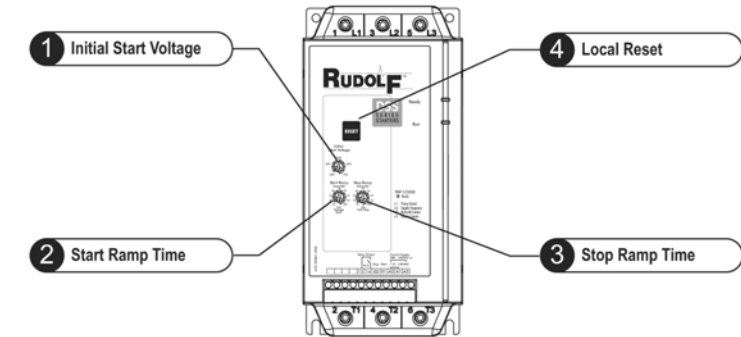


Schematic - DSSi Series



1. Motor Full Load Current	$x \% = \frac{\text{Motor FLC}}{\text{DSSi FLC}}$										
2. Current Ramp											
3. Current Limit											
4. Motor Trip Class		 OFF = No overload protection									
5. Local Reset Push Button											
6. Soft Stop Time											
7. Excess Start Time											
8. Phase Rotation Protection	<table border="1"> <tr> <td></td> <td>FWD</td> <td>ANY</td> </tr> <tr> <td></td> <td>✓</td> <td>✓</td> </tr> <tr> <td></td> <td>✗</td> <td>✓</td> </tr> </table>		FWD	ANY		✓	✓		✗	✓	
	FWD	ANY									
	✓	✓									
	✗	✓									
9. Auxiliary Relay Function											

Schematic - DSS Series



1. Initial Start Voltage		
2. Start Ramp Time		
3. Stop Ramp Time		

Wiring - DSSi Series & DSS Series

	L1/1, L2/3, L3/5, T1/2, T2/4, T3/6 mm ² (AWG)			A1, A2, A3, 01, 02, B4 B5, 13, 14, 23, 24 mm ² (AWG)	
	007 ~ 030	037 ~ 055	075 ~ 110	007 ~ 110	
	10 - 35 (8 - 2)	 25 - 70 (4 - 2/0)	 N.A.	 11 (0.43)	 0.14 - 1.5 (26 - 16)
	10 - 35 (8 - 2)	 25 - 70 (4 - 2/0)	 N.A.	 26 (1.02) 8.5 (0.33)	 0.14 - 1.5 (26 - 16)
	Torx (T20) 3 - 5 Nm. 2.2 - 3.7 ft-lb	Torx (T20) 4 - 6 Nm. 2.9 - 4.4 ft-lb	N.A.	N.A.	
	7 mm 3 - 5 Nm. 2.2 - 3.7 ft-lb	7 mm 4 - 6 Nm. 2.9 - 4.4 ft-lb	N.A.	3.5 mm 0.5 Nm max 4.4 lb-in max	

75°C Wire Use copper conductors only



This product is designed for Class A environments. Use of this product in domestic environments may cause ratio interference.

Do not connect power factor correction capacitors between the soft starter and the motor.