

Technical data

Softstarters
Type PSS

PSS03 – PSS25 and PSS18/30 – PSS300/515

		PSS03 – PSS12	PSS25	PSS18/30 – PSS300/515
Rated insulation voltage U_z	V	630	630	690
Rated operational Voltage U_e	V	220 – 600	220 – 600	200 – 690
SCR PIV ratings				
up to 500V		1200	1200	1600
up to 600V		1600	1600	1800
Starting capacity at max. rated current I_e		5 x I_e for 5 sec	5 x I_e for 5 sec	500% for 30 sec
Number of starts per hour τ		6	6	30 ^①
Overload class	A	10	10	10
Service factor	%	100	100	115 110 (PSS300/515)
Ambient temperature				
During operation	°C	-20 to +50	-20 to +50	-20 to +60 ^②
During storage	°C	-40 to +70	-40 to +70	-40 to +70
Degree of protection				
Main circuit		IP20	IP20	IP20 (PSS18/30-500 – PSS44/76-500) IP10 (PSS50/85-500 – PSS72/124/-500) IP10 (PSS18/30-690 – PSS72/124-690) IP00 (PSS85/147 – PSS300/515)
Supply and control circuit		IP20	IP20	IP20
Settings				
Ramp time during start	s	0.5 – 6.5	0.5 – 10	1 – 30
Ramp time during stop	s	0.5 – 8	0.5 – 20	0 – 30
Initial voltage during start	%	0 – 85	5 – 50	30 – 70
Current limit function	x I_e	No	No	1.5 – 4 ^③
Switch for				
Inside delta connection ON/OFF		No	No	Yes
Signal relay				
Bypass signal		No ^④	No ^④	Yes
Fault signal		No	No	Yes
Rated operational voltage U_e	V	—	—	250
Rated thermal current I_{th}	A	—	—	5
Rated operational current I_e at AC 15 ($U_e=250V$)	A	—	—	1.5
Signal indication LED				
Ready to start/stand by	ON	Green	Green	Green
Ramping up/down		Yellow	Yellow (flashing)	No
Completed start ramp	T.O.R.	Yellow	Yellow	Green
General fault (internal)	F1	—	Red	Red
External fault (phase loss)	F2	—	—	Red

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Size related data

Size	Type	A	Max. power loss at max I_e W	Max. SCR fuse rating (optional)	Busman fuses	Power requirements of supply circuit VA
PSS03	TA25DU	2.2 – 3.1	—	16A	170M1359	2
PSS12	TA25DU	10 – 14	—	40A	170M1363	2
PSS25	TA25DU	18 – 25	—	50A	170M1364	5
PSS18/30	TA25DU	6 – 18	⑤	50A	170M1364	9
PSS30/52	TA25DU	10 – 30	⑤	80A	170M1366	9
PSS37/64	TA42DU	22 – 37	⑤	125A	170M1368	9
PSS44/76	TA75DU	29 – 44	⑤	160A	170M1369	9
PSS50/85	TA75DU	29 – 50	⑤	160A	170M1369	10
PSS60/105	TA75DU	29 – 60	⑤	200A	170M1370	10
PSS72/124	TA75DU	45 – 72	⑤	250A	170M1371	10
PSS85/147	TA110DU	65 – 85	⑤	315A	170M1372	36
PSS105/181	TA110DU	65 – 105	⑤	400A	170M3019	36
PSS142/245	TA200DU	100 – 142	⑤	450A	170M3020	36
PSS175/300	TA200DU	100 – 175	⑤	500A	170M3021	65
PSS250/430	TA450DU	130 – 250	⑤	700A	170M4017	65
PSS300/515	TA450DU	130 – 300	⑤	900A	170M5015	65

① When more than six starts per hour are required, contact your sales office.

② Above 40°C, up to max 60°C, reduce the rated current with 0.8% per °C.

③ Only if current transformer is connected (accessory).

④ The unit has built-in bypass contacts (AC-53b).

⑤ Total power loss: $P_{Ltot} = [3 \times I_e \times 1.0] + 50$ (W), reduced to 50W only when using by-pass.

⑥ 50% on and 50% off, 3.5 times rated current and 7 second starting time.

Cross section of connection cables PSS03 – PSS25 and PSS18/30 – PSS300/515

Type PSS		PSS03 – PSS12	PSS25	PSS18/30-500 – PSS44/76-500	PSS50/85-500 – PSS72/124-500 & PSS18/30-690 – PSS72/124-690	PSS85/147-500 – PSS142/245-500 & PSS85/147-690 – PSS142/245-690	PSS175/300-500 – PSS300/515-500 & PSS175/300-690 – PSS300/515-690
Main circuit							
Connection clamp							
Rigid solid/rigid stranded	1x	AWG 12	AWG 6	AWG 4 - 8	AWG 1 - 8	—	—
Rigid solid/rigid stranded	2x	AWG 12	AWG 8	AWG 4 - 8	AWG 4 - 8	—	—
Tightening torque (for guidance only) max. lb./in		4.3	17.5	23	40	—	—
Terminal lugs ①							
Rigid solid / rigid stranded	1x	—	—	—	—	#6 - 250 MCM	#4 - 400 MCM
Rigid solid / rigid stranded	2x	—	—	—	—	—	#4 - 500 MCM
Tightening torque (for guidance only) max. lb./in		—	—	—	—	300	375
Connection bar							
Width and thickness	mm	—	—	—	—	17.5 x 5	20 x 5
Hole diameter	mm	—	—	—	—	8.5	10.2
Tightening torque (for guidance only) max. lb./in		—	—	—	—	79	155
Supply and control circuit							
Connection clamp							
Rigid solid/rigid stranded	1x	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12
Rigid solid/rigid stranded	2x	AWG 12	—	—	—	—	—
Tightening torque (for guidance only) max. lb./in		4.3	4.3	4.3	4.3	4.3	4.3

① See accessories on page 6.8.