VSII Plus Soft Starter

Overview

The Peter Electronic VSII Plus Soft Starter provides robust quality, high starts/hour and simple setup for applications up to 105A. Quick configuration through setup of 3 trimpots, and status LEDs alert the user of the operational status of the units. Built-in DIN-rail mounting and quick-connect I/O wiring terminals make installation easy. High-quality German manufacturing make this soft starter a workhorse for any application.

Features

- Supports any 200-480 VAC, 50/60 Hz input power supply
- Supports up to 105A, 75 hp @ 460V, 30 hp @230V
- High starts/hour – ratings vary by model
- Three trimpot setup: Accel Time, Decel time, Start Voltage
- Microprocessor controlled, 2-phase soft starter with current and torque reduction during acceleration
- Integrated bypass relay activated after ramp setting time
- DIN rail or direct mount
- IP20 protection rating
- Control inputs for 2-wire/3-wire start and start ramp boost
- Relay output available (closed, when motor is running)
- Suitable for Class 5 or 10 applications
- 24 VDC control voltage
- Economically priced substitute for star-delta starters

- ***6-32A model specific features:***
  - Acceleration/Deceleration settings of 1–10 seconds
  - Start voltage setting of 30–80%
  - Removable Control I/O terminal block with screw terminals
  - Compact design 45mm width
- ***38-105A model specific features***
  - Acceleration/deceleration settings of 0.5–20 seconds
  - Start voltage settings of 30–90%
  - Push-in style control terminals
  - Compact design, 55mm at up to 65A and 81mm at up to 105A
  - Fault detection for heatsink overtemperature (overload), phase loss, missing motor load, low control voltage, bypass malfunction, and controller malfunction
  - Optional external fan allows double starts/hr rating

Optional Accessories

- External fan for 38–105A models provides double starts/hr

Applications

- Door and gate drives
- Pumps
- Ventilators
- Fans
- Conveying systems
- Packaging machines
- Transport systems
- Assembly lines
- Machine applications

Advantages

- Reduction of stress on couplings and other transmission devices during starting (gearboxes, sheaves, etc.)
- Extended lifetime of motor and mechanical components due to reduced mechanical stress
- Robust design allows high starts/hour
- Easy operation, setup, and maintenance
- Simple electrical wiring

Certifications

CE c UL us LISTED Canada/USA UKCA

VSII Plus Series Soft Starters[1,2,3]

Model	Price	Motor Rated hp @ 230 VAC	Motor Rated hp @ 460 VAC	Soft Starter Amps (A)	Max Starts/Hour	Drawing
26300.48006	$185.00	1	3	6	20	PDF
26300.48009	$196.00	2	5	9	20	PDF
26300.48012	$205.00	3	7	12	20	PDF
26300.48022	$291.00	5	15	22	20	PDF
26300.48032	$449.00	7.5	20	32	10	PDF
26300.48038	$551.00	10	25	38	50	PDF
26300.48045	$598.00	15	30	45	35	PDF
26300.48065	$711.00	20	40	65	13	PDF
26300.48080	$908.00	25	60	80	25	PDF
26300.48105	$998.00	30	75	105	10	PDF

1 - hp rating based on Table 430-150 of the NEC. Use as a guide only. Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal amps of starter.
2 - 24 VDC control power supply required.
3 - For other technical data, please refer to VSII product manual.

Selecting the Right Soft Starter

VSII Soft Starters Selection Steps 1 and 2 (of 4)

		Typical Applications					
		Standard Duty**		Medium Duty*		Heavy Duty*	Light Duty**
Step 1: Select the application from the list and follow that column down to determine trip class and rated starting capability.		Default Agitator Bow Thruster - Zero Pitch Compressor - Rotary Vane Compressor - Scroll Conveyor - Unloaded Fan - Low Inertia < 85 A Feeder - Screw	Lathe Machines Mixer - Unloaded Molding Machine Plastic and Textile Machines Pump - Submersible Centrifugal Pump - Submersible Rotodynamic Saw - Band Transformers, Voltage Regulators	Ball Mill Bow Thruster - Loaded Compressor - Centrifgual Compressor - Rotary Screw Conveyor - Loaded Grinder Hammer Mill Mills - Flour, etc. Mixer - Loaded Pelletizers	Pump - Positive Displacement Reciprocating Pump - Positive Displacement Rotary Pump Jack Rolling Mill Roots Blower Saw- Circular Screen - Vibrating Tumblers	Centrifuges (For centrifuges make selection at I(A) = motor FLA x 2.3) Crusher Fan - High Inertia (>85A) Shredder Wood Chipper Press Flywheel	Unloaded / Very lightly Loaded Motor Commercial Applications Centrifugal Pump Screw Compressor (no load starting) Vane Vacuum Pump Light Duty Lathe Light Duty Mixer (no load starting)
Step 2: Confirm the rated starting capability of the soft start against the application.	Trip Class*	10		20		30	5
	Rated Starting Capability	3xMotor Current – 10s		The VSII is for Standard or Light Duty only*		The VSII is for Standard or Light Duty only*	3xMotor Current - 5s
	Max Starts per Hour						

Model Amperage	Starts/Hour	Category of Use
6–22	20	AC53b: 6-3:117
32	10	
38	50	AC53a: 3-5:70-50
45	35	AC53a: 3-5:70-35
65	13	AC53a: 3-5:70-13
80	25	AC53a: 3-5:70-25
105	10	AC53a: 3-5:70-10

CAUTION: EXCEEDING STARTS PER HOUR WILL CAUSE THE STARTER TO OVERHEAT AND FAIL.

*** For Medium or Heavy Duty applications, consider the WEG SSW07 family or the SR55 Stellar family soft starters. A separate overload protection device with a rating corresponding to the applicable Class 5 or 10 trip class must be used with the VSII.**
**** A seperate overload protection device with a rating corresponding to the applicable Class 5 or 10 trip class must be used with the VSII.**

VSII Soft Starters Selection Step 3 (of 4)

Step 3: Consider the operating environment and make the model selection based on a higher horsepower rating.		
Height Above Sea Level	0-1000m [0-3300ft] - standard operation at rated current Derating above 1000m: *6–32A models:* 2.2% per 100m [328ft] above 1000m [3,281ft] *38–105A models:*1% per 100m [328ft] above 1000m [3,281ft] (up to max of 4000m)	
Operating Temperature	*6–32A models:* 14 to 122 °F [-10 to +50 °C] (Derating: higher than 40 °C, -2% per 1 °C up to max. 50 °C)	*38–105A models:* 14 to 104 °F [-10 to +40 °C] (Derating: higher than 40 °C, -2% per 1 °C up to max. 60 °C)

VSII Soft Starters Selection Step 4 (of 4)

Step 4: Select VSII model based on your motor voltage and horsepower

Motor Size			Soft Starter Size		
In-Line Connection			Application Trip Class		
HP @			Class 10	I (A)	Maximum Starts per Hour
230 VAC*	460 VAC*	Size			
1	3	1	26300.48006	6	20
2	5	1	26300.48009	9	20
3	7	1	26300.48012	12	20
5	15	2	26300.48022	22	20
7.5	20	2	26300.48032	32	10
10	25	3	26300.48038	38	50
15	30	3	26300.48045	45	35
20	40	3	26300.48065	65	13
25	60	4	26300.48080	80	25
30	75	4	26300.48105	105	10

*** 230V=208-240V, 460V=440-480V**
Note: Oversizing the softstarter is allowed. Motor load should be at minimum 20% of the softstarter rated amps.

VSII Max UL Overcurrent and Motor Overload Protection

Maximum UL Overcurrent for Fuse Protection Devices[1,2]					
Soft Starter Model Number	*Voltage*	*Max Current (UL 508)*	*Standard Fault*	*Motor Overload Protection[3]*	*Fuse*
26300.48006	200-480 VAC	20A	5 kA (@480 VAC 3ph)	XTOE020CCSS	JDL20
26300.48009		30A	5 kA (@480 VAC 3ph)	XTOE020CCSS	JDL30
26300.48012		35A	5 kA (@480 VAC 3ph)	XTOE020CCSS	JDL35
26300.48022		80A	5 kA (@480 VAC 3ph)	XTOE045CCSS	JDL80
26300.48032		100A	5 kA (@480 VAC 3ph)	XTOE045CCSS	JDL100
26300.48038		60A	65 kA (@480 VAC 3ph)	XTOE045CCSS	JDL60
26300.48045		90A	65 kA (@480 VAC 3ph)	XTOE100GCSS	JDL90
26300.48065		110A	65 kA (@480 VAC 3ph)	XTOE100GCSS	JDL110
26300.48080		175A	65 kA (@480 VAC 3ph)	XTOE100GCSS	JDL175
26300.48105		200A	65 kA (@480 VAC 3ph)	XTOE175GCSS	JDL200

1 - Maximum trip ratings are for non-time-delay overcurrent protection devices.
2 - Motor branch circuit protection must be based on MOTOR Full Load Current and must comply with applicable local electrical codes. The 2008 NEC section 430.52 recommends a maximum of 175% (up to 225% absolute maximum) of motor FLC for time-delay fuses. (Class CC time-delay fuses are permitted up to the non-time-delay fuse maximum rating.)
3 - A separate overload protection device with a rating corresponding to the applicable Class 5 or 10 trip class must be used with the VSII.

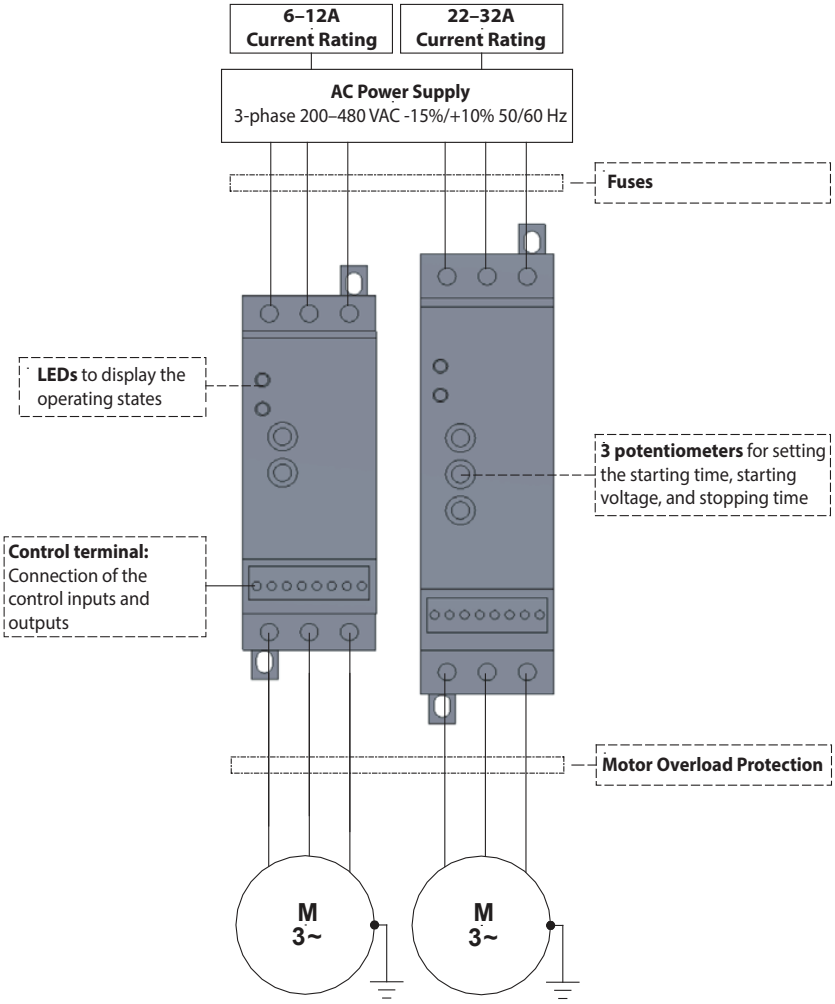
VSII Plus Specifications

Specifications (6–32 A Models)						
Model Number		***26300.48006***	***26300.48009***	***26300.48012***	***26300.48022***	***26300.48032***
Model Name		***VS II plus 480-6***	***VS II plus 480-9***	***VS II plus 480-12***	***VS II plus 480-22***	***VS II plus 480-32***
Frame Size		1	1	1	2	2
Device Rated Current		6A	9A	12A	22A	32A
Motor Power @ 230 VAC		1 hp [0.75 kW]	2 hp [1.5 kW]	4 hp [3 kW]	7.5 hp [5.5 kW]	10 hp [7.5 kW]
Motor Power @ 480 VAC		3 hp [2.25 kW]	5 hp [3.7 kW]	7.5 hp [5.5 kW]	15 hp [11 kW]	20 hp [15 kW]
Mains/Motor Voltage		3-phase 200–480 VAC -15% / +10% 50/60 Hz				
Control Voltage		24 VDC ±10% (max. 28 VDC) / 21.6W				
Max Power Loss	***Standby***	<3 W				
	Ramp-up	62W	92W	122W	223W	323W
	Bypass	1.5W	1.5W	1.5W	2.5W	2.5W
Duty Cycle (starts/hr@300% rated current, 5 s start time, 70% duty cycle)		20				10
Trip Class		10				
Surge Strength - Power Contacts		4 kV				
Surge Strength - Auxiliary Contacts		2.5 kV				
Insulation Voltage		480 VAC				
Digital Control Inputs (24 VDC)		Two inputs for Start/Stop (2/wire or 3/wire) One input for Ramp Boost				
Control Features	***Acceleration Time***	1–10 seconds				
	Deceleration Time	1–10 seconds				
	Pedestal Voltage	30–80% of line voltage				
Motor Protection Features		None				
Wiring Specifications	***Control Terminals***	20–14 AWG [0.5–1.5 mm^2], 10mm stripping length				
	Control Terminal Torque	0.5 N•m				
	Power Terminals	16–10 AWG [1–6 mm^2]				
	Power Terminal Torque	1.9–2.5 N•m [20 lb-in]				
Ambient Temperature (Operating)		14 to 122°F [-10 to +50 °C] (Derating: higher than 40 °C, -2% per 1 °C up to max. 50 °C)				
Storage Temperature		-25 to +85 °C [-13 to +185 °F]				
Humidity		5–95% without condensation or dripping water (according to EN/IEC 60068-2-3)				
Altitude Derating		2.2% per 100m [328ft] above 1000m [3,281ft]				
Protection Class		IP20				
Overvoltage Category		III (TT/TN-systems)				
Pollution Degree		2				
Installation Class		2				
Weight (lb [kg])		0.66 [0.3]	0.66 [0.3]	0.66 [0.3]	1.10 [0.5]	1.10 [0.5]
Conformities	***Low Voltage***	DIN EN IEC 60947-1:2022-03DIN				
	EMC	EMC directive 2014/30/EU				

VSII Plus Specifications, *continued*

Specifications (38–105 A Models)						
Model Number		***26300.48038***	***26300.48045***	***26300.48065***	***26300.4808***	***26300.48105***
Model Name		***VS II plus 480-38***	***VS II plus 480-45***	***VS II plus 480-65***	***VS II plus 480-80***	***VS II plus 480-105***
Frame Size		3	3	3	4	4
Device Rated Current		38A	45A	65A	80A	105A
Motor Power @ 230 VAC		15 hp [11 kW]	15 hp [11 kW]	25 hp [18.5 kW]	30 hp [22 kW]	40 hp [30 kW]
Motor Power @ 480 VAC		25 hp [18.5 kW]	30 hp [22 kW]	40 hp [30 kW]	60 hp [45 kW]	75 hp [55 kW]
Mains/Motor Voltage		3-phase 200–480 VAC -15% / +10% 50/60 Hz				
Control Voltage		24 VDC ±10% (max. 28 VDC) / 21.6 W				
Max Power Loss	***Standby***	<3 W				
	Ramp-up	220W	264W	397W	512W	703W
	Bypass	7W	9W	16W	16W	27W
Duty Cycle (starts/hr@300% rated current, 5 s start time, 70% duty cycle)		50	35	13	25	10
Trip Class		10				
Surge Strength - Power Contacts		4 kV				
Surge Strength - Auxiliary Contacts		2.5 kV				
Insulation Voltage		480 VAC				
Digital Control Inputs (24 VDC)		Two inputs for Start/Stop (2/wire or 3/wire) One input for Ramp Boost				
Control Features	***Acceleration Time***	0.5–20 seconds				
	Deceleration Time	0–20 seconds				
	Pedestal Voltage	30–90% of line voltage				
	Fault Reset	Automatic/Manual				
Motor Protection Features		Heatsink overtemperature (overload), phase loss, missing motor load				
Wiring Specifications	***Control Terminals***	24–12 AWG [0.2–2.5 mm^2], 10mm stripping length				
	Power Terminals	16–2 AWG [1–35 mm^2], 16mm stripping length			14–2/0 AWG [2–70 mm^2], 20mm stripping length	
	Power Terminal Torque	8 N•m [70 lb-in]			9 N•m [80 lb-in]	
Ambient Temperature (Operating)		14 to 104 °F [-10 to +40 °C] (Derating: higher than 40 °C, -2% per 1 °C up to max. 60 °C)				
Storage Temperature		-25 to +85 °C [-13 to +185 °F]				
Humidity		5–95% without condensation or dripping water (according to EN/IEC 60068-2-3)				
Altitude Derating		1% per 100m [328ft] above 1000m [3,281ft] (up to max of 4000m)				
Protection Class		IP20				
Overvoltage Category		III (TT/TN-systems)				
Pollution Degree		2				
Installation Class		2				
Weight (lb [kg])		2.86 [1.3]	2.86 [1.3]	2.86 [1.3]	5.07 [2.3]	5.07 [2.3]
Conformities	***Low Voltage***	DIN EN IEC 60947-1:2022-03DIN				
	EMC	EMC directive 2014/30/EU				

6–32A Models Setup Overview

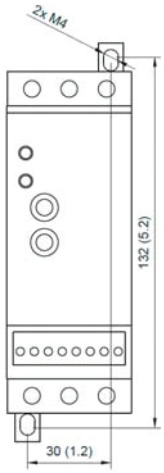


6–32A Models Mounting

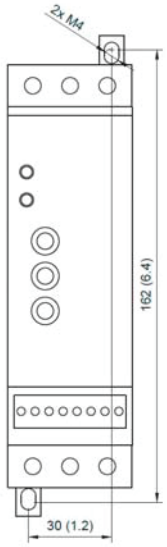
Screw Mounting

Dimensions: *mm (in)*

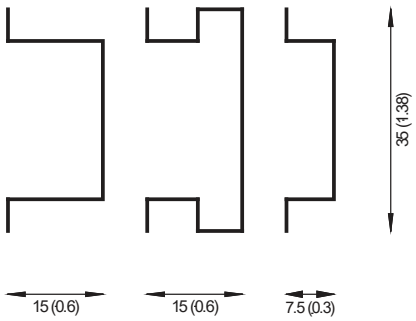
Drilling Pattern 6–12A



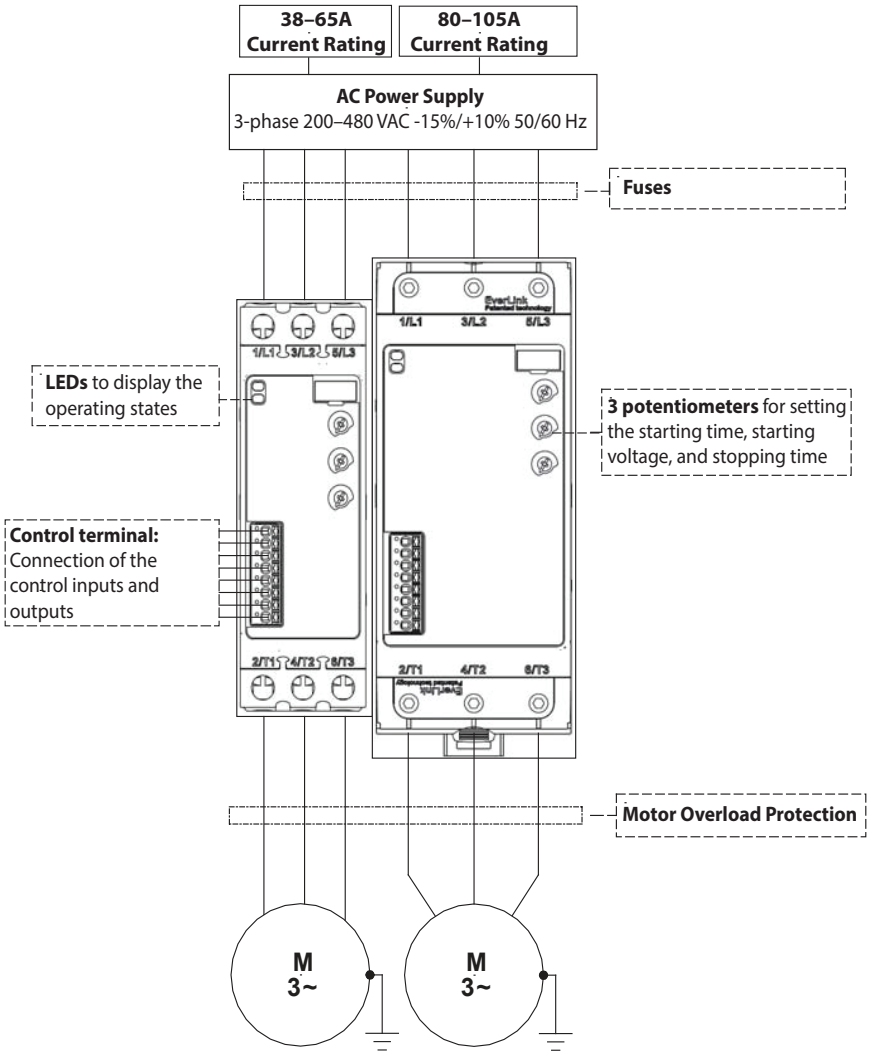
Drilling Pattern 22–32A



DIN Rail Mounting



38–105A Models Setup Overview

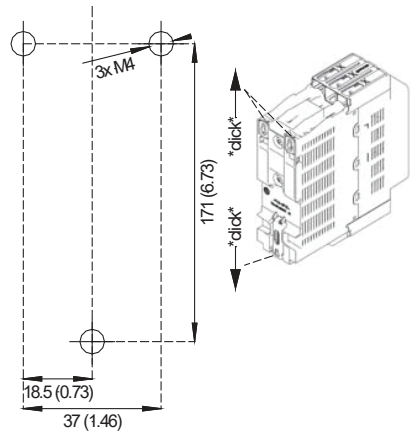


38–105A Models Mounting

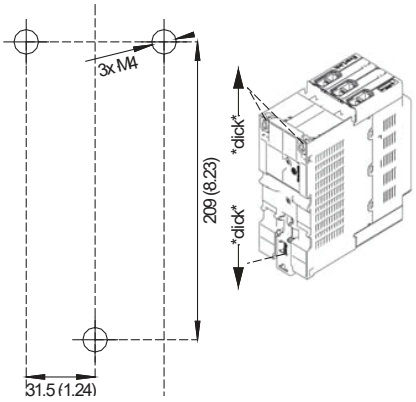
Dimensions: *mm (in)*

Screw Mounting

Drilling Pattern 38–65A

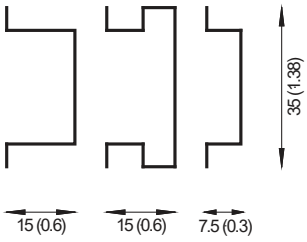


Drilling Pattern 80–105A

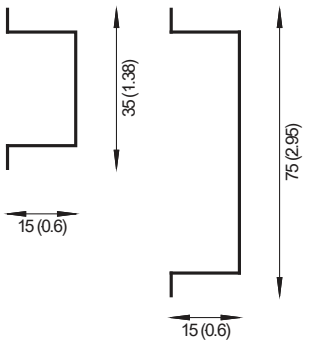


DIN Rail Mounting

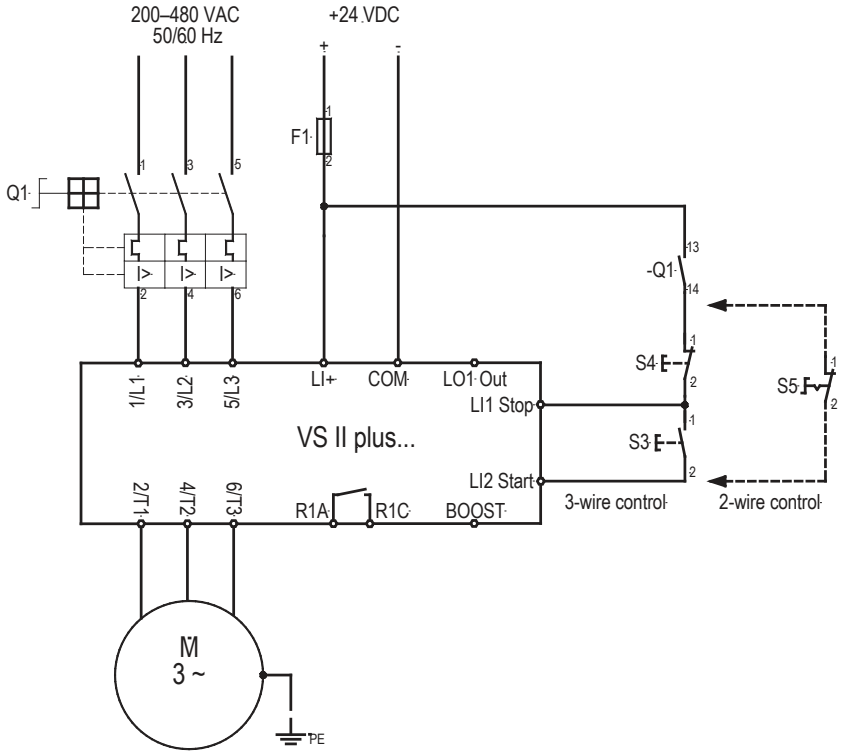
38–65A Models



80–105A Models

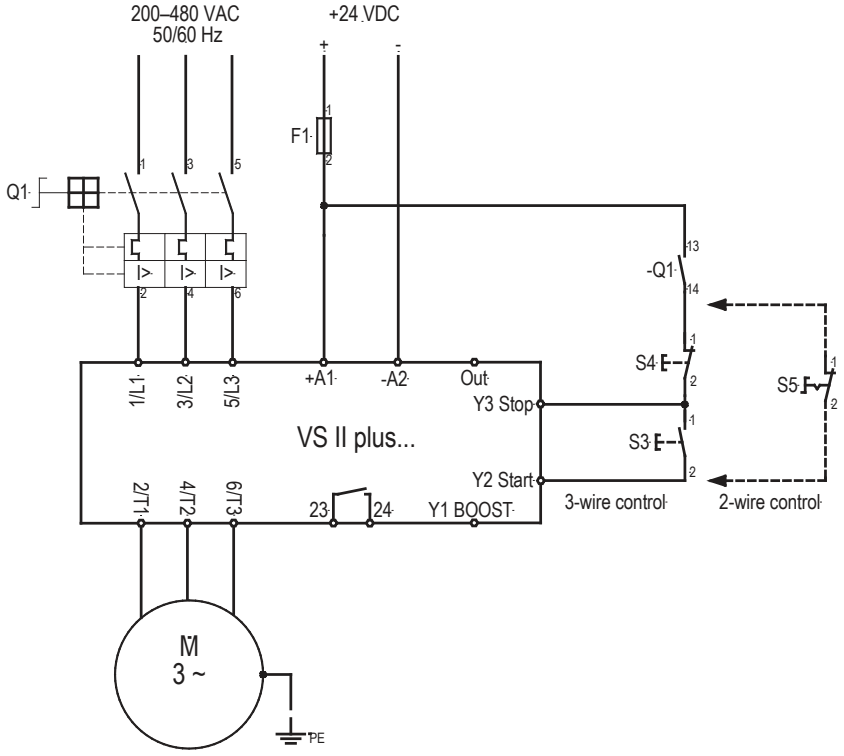


6–32A Models Wiring Diagram



NOTE: External motor temperature monitoring must be provided for all models.

38–105A Models Wiring Diagram



Cooling Fan

Cooling fan for Peter Electronic VSII Plus series model 38-105A soft starters.
Adding the fan doubles the allowable starts/hour for the soft starter.

VSII Plus Series Soft Starters Accessories			
Model	***Price***	***Description***	***Drawing***
69200.00013	$41.00	Peter Electronic VSII series main cooling fan, 40 x 40 x 10mm, 24 VDC. For use with Peter Electronic VSII series 38–105A soft starters. Electrical connector included.	PDF

Fan Installation