

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 trim pots, 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



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.



VSII Plus Soft Starter

Selecting the Right Soft Starter

VSII Soft Starters Selection Steps 1 and 2 (of 4)						
Step 1: Select the application from the list and follow that column down to determine trip class and rated starting capability.	Typical Applications					
	Standard Duty**		Medium Duty*		Heavy Duty*	Light Duty**
	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 - Centrifugal 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)
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
Step 2: Confirm the rated starting capability of the soft start against the application. 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.

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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		Maximum Starts per Hour
HP @		Size	Class 10	I (A)	
230 VAC*	460 VAC*				
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
<u>26300.48006</u>	200-480 VAC	20A	5 kA (@480 VAC 3ph)	XTOE020CCSS	<u>JDL20</u>
<u>26300.48009</u>		30A	5 kA (@480 VAC 3ph)	XTOE020CCSS	<u>JDL30</u>
<u>26300.48012</u>		35A	5 kA (@480 VAC 3ph)	XTOE020CCSS	<u>JDL35</u>
<u>26300.48022</u>		80A	5 kA (@480 VAC 3ph)	XTOE045CCSS	<u>JDL80</u>
<u>26300.48032</u>		100A	5 kA (@480 VAC 3ph)	XTOE045CCSS	<u>JDL100</u>
<u>26300.48038</u>		60A	65 kA (@480 VAC 3ph)	XTOE045CCSS	<u>JDL60</u>
<u>26300.48045</u>		90A	65 kA (@480 VAC 3ph)	XTOE100GCSS	<u>JDL90</u>
<u>26300.48065</u>		110A	65 kA (@480 VAC 3ph)	XTOE100GCSS	<u>JDL110</u>
<u>26300.48080</u>		175A	65 kA (@480 VAC 3ph)	XTOE100GCSS	<u>JDL175</u>
<u>26300.48105</u>		200A	65 kA (@480 VAC 3ph)	XTOE175GCSS	<u>JDL200</u>

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.

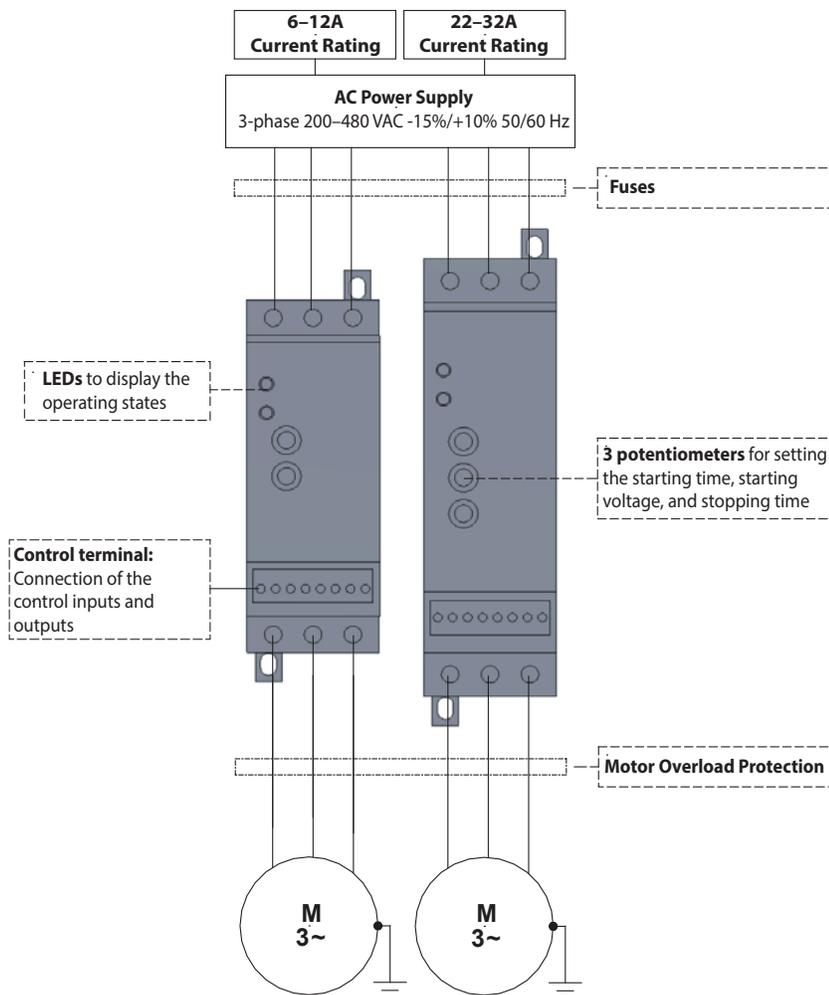
VSII Plus Specifications

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

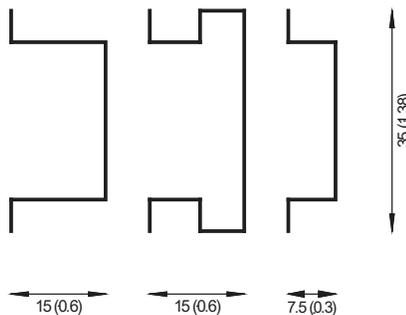
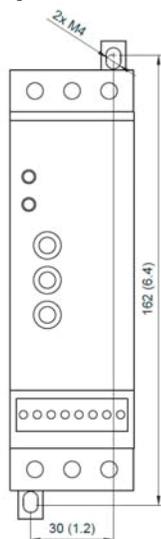
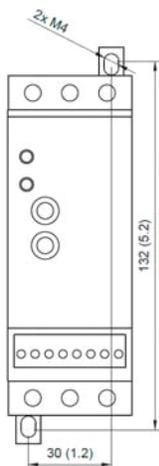
Screw Mounting

Dimensions: mm (in)

DIN Rail Mounting

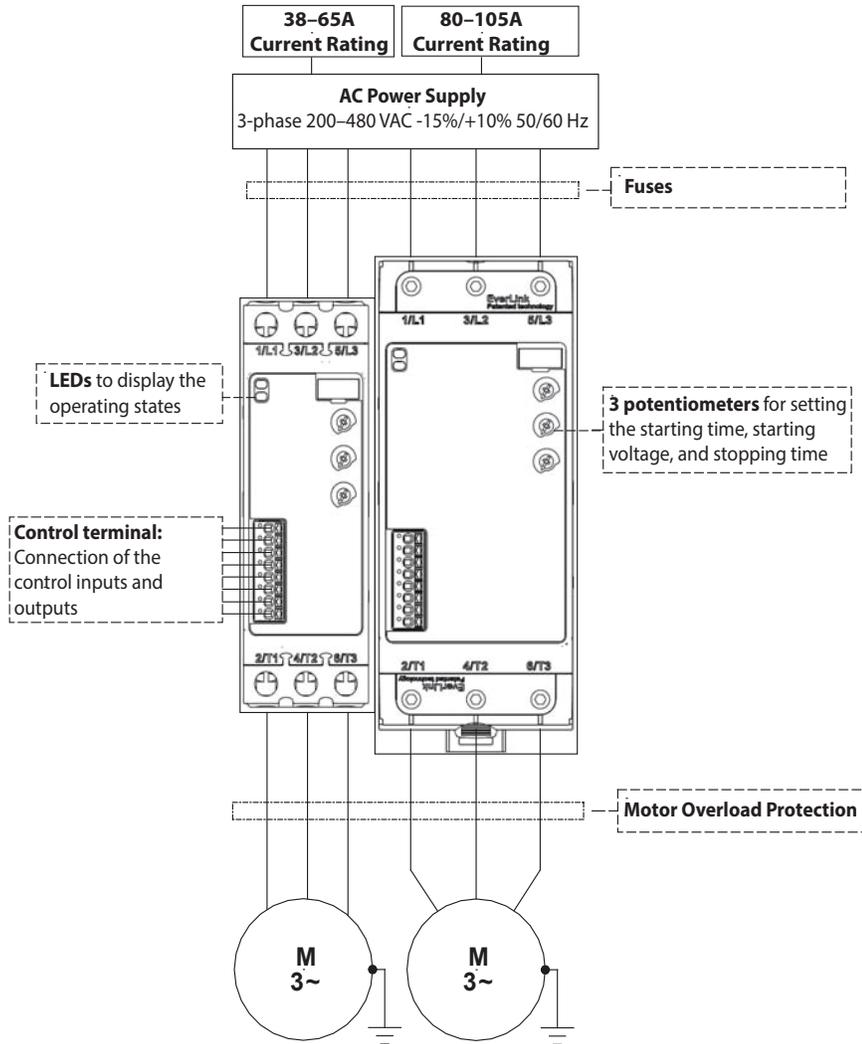
Drilling Pattern 6-12A

Drilling Pattern 22-32A



VSII Plus Soft Starter

38-105A Models Setup Overview

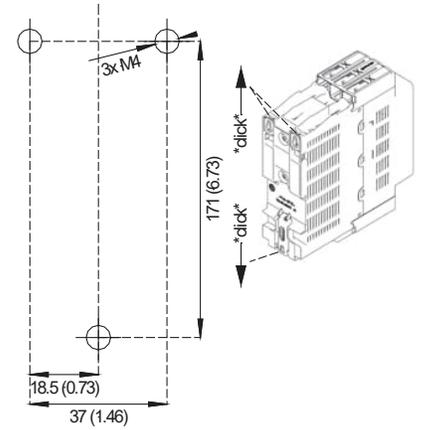


38-105A Models Mounting

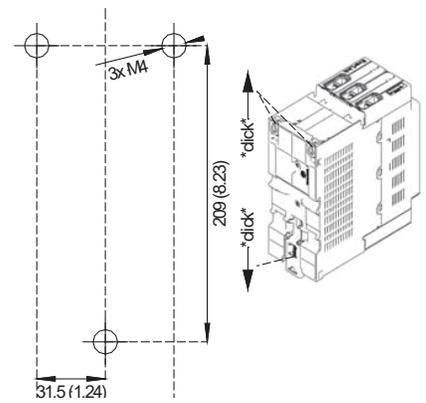
Screw Mounting

Dimensions: mm (in)

Drilling Pattern 38-65A

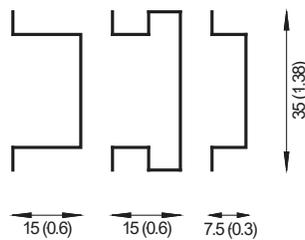


Drilling Pattern 80-105A

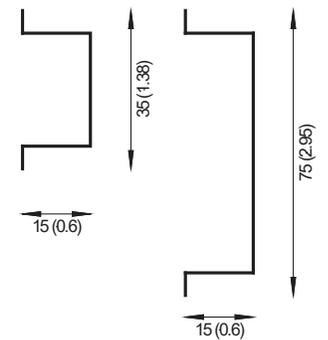


DIN Rail Mounting

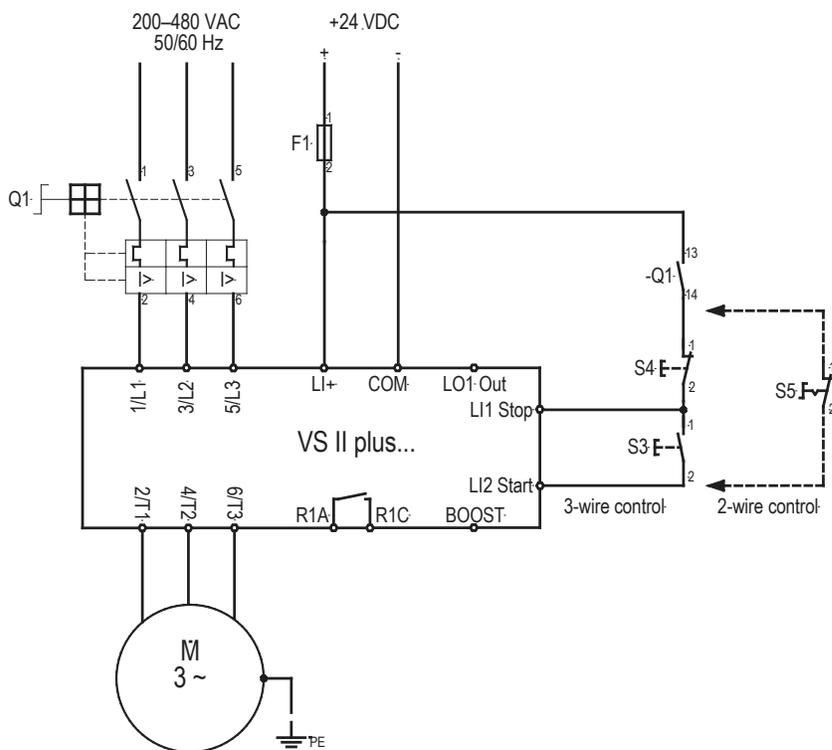
38-65A Models



80-105A Models

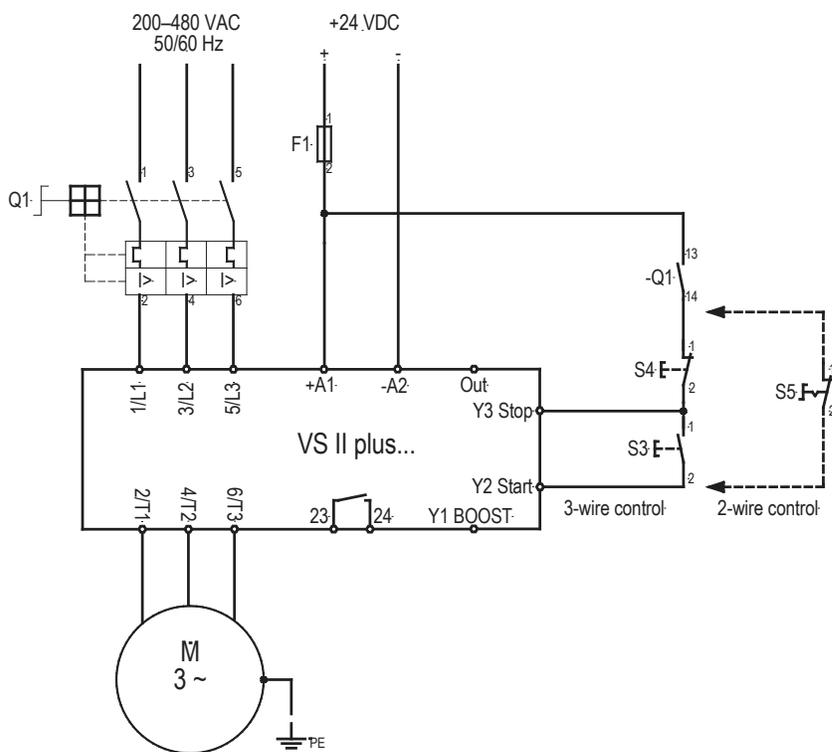


6-32A Models Wiring Diagram



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

