



PRODUCT SPECIFICATIONS

3LH SERIES

VARIABLE FREQUENCY DRIVE

Low Harmonic | Three-Phase

5 HP to 450 HP

PHASE

INTUITIVELY
ENGINEERED



3LH SERIES

VARIABLE FREQUENCY DRIVE

Three-Phase | Low Harmonic | Voltage Doubling



3LH SERIES

Three-Phase, Voltage Doubling, Low Harmonic VFDs

- Quick & easy installation and setup

PERFECT PRESSURE™

- Setup constant pressure in minutes
- Large backlit graphic display with intuitive menus
- Messages in clear English

Industry Best Lead Times

- 3-10 Business Days

Sinewave Filter Integration

- Minimize excessive voltage spikes
- In-house manufacturing / installation

Superior Heat Rejection

- Maximizing component life and uptime

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Enclosure Overview

ENTERPRISE

See Page 4



5 HP to 50 HP

Phase Technologies' most value driven product to date.

- Compact Design
- Best Value
- Shortest Lead Times (3–5 business days)

SIGNATURE

See Page 12



20 HP to 200 HP

Signature enclosures offer rugged performance & superior quality.

- Slim & Light Design
- Lower Cost
- Shorter Lead Times (3–7 business days)

PERFORMANCE

See Page 22



20 HP to 450 HP

The Performance enclosures offer a large sub-panel with ample space for a multitude of integrated options.

- Rugged
- Spacious
- Simple Equipment Integration
- Lead Times (5–10 business days)

Feature Set



Power Behind The Pump

AQUAPHASE™ feature set provides complete control capability for all pumping applications

3LHE
SERIES



ENTERPRISE Enclosure

- 5 HP to 50 HP
- Input 240 V & 480 V | Output 240 V & 480 V
- Three-Phase
- Voltage Doubling
- Low Harmonic – IEEE519 Compliance Guaranteed **IEEE**
- NEMA 3R Rated Outdoor Enclosure

Our Guarantee

IEEE 519 Compliance

Phase Technologies guarantees that the **LH** SERIES product line will meet the IEEE 519–2014 standard as long as a minimum load of 80% is maintained as related to the max current rating of the system. If a system does not comply, Phase Technologies will either offer a suitable fix to the bring the panel into compliance or offer a full refund for the purchase price of the panel upon return.

Nomenclature

Model Series	Input / Output Voltage	Rated HP	Enclosure Rating	Branch Circuit Protection	Addl. User Controls	Output Filter	Surge Protection
3LHE SERIES	0 240V 240V Three-Phase	05 - 5 HP 07 - 7.5 HP 10 - 10 HP 15 - 15 HP 20* - 20 HP 25* - 25 HP 30* - 30 HP			Optional User-Installed		Optional User-Installed
	2 240V 480V Three-Phase Voltage Doubling	05 - 5 HP 07 - 7.5 HP 10 - 10 HP 15 - 15 HP 20 - 20 HP 25 - 25 HP	R 3R Rated Outdoor Type Rain / Bug Proof	B MCCB Service Disconnect	Choose Option H - HOA Switch & Speed Pot H1 - HOA Switch Only H2 - Speed Pot Only	O Sinewave Filter <small>*Not Available For: 3LHE020 3LHE025 3LHE030 3LHE440 3LHE450</small>	Choose Option S - Strikesorb® Surge Protection S1 - Protec® Surge Protection
	4 480V 480V Three-Phase	05 - 5 HP 07 - 7.5 HP 10 - 10 HP 15 - 15 HP 20 - 20 HP 25 - 25 HP 30 - 30 HP 40* - 40 HP 50* - 50 HP					

Technical Specifications

Physical / Environmental	
Operating Temperature Range	-40 °C – 50 °C (-40 °F – 122 °F) <i>*Heater in enclosure may be required below -40 °C, de-rating required above 50 °C.</i>
Storage Temperature Range	-40 °C – 57 °C (-40 °F – 135 °F)
Enclosure	NEMA Type 3R: Outdoor Rainproof
Altitude	Derate by 5 °C every 2000 ft over 5500 ft of elevation
Input Power	
Input Phase	3 phase
Input Voltage	240 V 480 V
Input Voltage Range	190 V – 264 V 440 V – 520 V
Input Frequency	60 Hz
Output Power	
Output Phase	3 phase
Nominal Output Voltage	240 V 480 V
Output Voltage Range	180 V – 264 V 180 V – 520 V
Output Frequency	5 Hz – 300 Hz
Horsepower	5 HP – 50 HP
Output Power	4 – 37 kW
Switching Frequency	2 kHz – 5 kHz
Output	V/f Control or Torque Control (Optional)
Integrated Output Filter	Optional Sinewave Filter
Electrical	
Short Circuit Withstand Rating	25 kA RMS symmetrical amps (65 kA available upon request)
Efficiency	95%
Startup Ramp Time	1 – 120 s
Shutdown Ramp Time	1 – 120 s or Coast to Stop
Overload Capacity	120% for 60 s
Analog Inputs	
Quantity	(3) Programmable
Current Reference	4 – 20 mA, (2) Inputs
Voltage Reference	0 – 5 VDC, (1) Input
Terminal Block Size	26 – 12 AWG
Digital Inputs	
Quantity	(2) Programmable
Ratings	< 5 V, galvanically isolated
Terminal Block Size	26 – 12 AWG
Relay Outputs	
Quantity	(2) Programmable
Rating	Relay 1: 28 VDC, 10 A or 250 VAC, 10 A Relay 2: 30 VDC, 2 A or 125 VAC, 0.5 A
Terminal Block Size	26 – 12 AWG
Features	
Low Harmonic Compliance	IEEE-519 Guaranteed – (See page 4 for guarantee statement)
Certification	ETL listed to UL 61800-5-1 and CSA C22.2 No. 274-17
User Interface	Push button membrane keypad with backlit graphic display
Available Feature Sets	AquaPhase™ (pump control)

Models

Part Number	HP	Rated Input Current	Rated Output Current <small>[w/ 208 V Input w/ 240 V Input]</small>	Dimensions <small>(H x W x D)</small>	Weight
3LHE – ENTERPRISE – 208 V/240 V Input Three-Phase 208 V/240 V Output Three-Phase					
3LHE005R	5 HP	18 A	15 A 18 A	31 x 19 x 19 in.	100 lbs
3LHE007R	7.5 HP	24 A	20 A 24 A	31 x 19 x 19 in.	115 lbs
3LHE010R	10 HP	31 A	26 A 31 A	36 x 21 x 18 in.	125 lbs
3LHE015R	15 HP	46 A	40 A 46 A	36 x 21 x 18 in.	125 lbs
3LHE020R	20 HP	61 A	53 A 61 A	36 x 21 x 18 in.	125 lbs
3LHE025R	25 HP	75 A	65 A 75 A	36 x 21 x 18 in.	145 lbs
3LHE030R	30 HP	91 A	79 A 91 A	36 x 21 x 18 in.	145 lbs
3LHE – ENTERPRISE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase					
3LHE205R	5 HP	18 A	8 A 9 A	31 x 19 x 19 in.	100 lbs
3LHE207R	7.5 HP	24 A	11 A 13 A	31 x 19 x 19 in.	100 lbs
3LHE210R	10 HP	30 A	15 A 18 A	36 x 21 x 18 in.	130 lbs
3LHE215R	15 HP	46 A	20 A 24 A	36 x 21 x 18 in.	140 lbs
3LHE220R	20 HP	61 A	26 A 31 A	36 x 21 x 18 in.	150 lbs
3LHE225R	25 HP	77 A	33 A 38 A	36 x 21 x 18 in.	150 lbs

Part Number	HP	Rated Input Current	Rated Output Current 480 V	Dimensions <small>(H x W x D)</small>	Weight
3LHE – ENTERPRISE – 480 V Input Three-Phase 480 V Output Three-Phase					
3LHE405R	5 HP	9 A	9 A	31 x 19 x 19 in.	100 lbs
3LHE407R	7.5 HP	13 A	13 A	31 x 19 x 19 in.	100 lbs
3LHE410R	10 HP	18 A	18 A	31 x 19 x 19 in.	100 lbs
3LHE415R	15 HP	24 A	24 A	36 x 21 x 18 in.	125 lbs
3LHE420R	20 HP	31 A	31 A	36 x 21 x 18 in.	140 lbs
3LHE425R	25 HP	38 A	38 A	36 x 21 x 18 in.	145 lbs
3LHE430R	30 HP	46 A	46 A	36 x 21 x 18 in.	145 lbs
3LHE440R	40 HP	61 A	61 A	36 x 21 x 18 in.	150 lbs
3LHE450R	50 HP	77 A	77 A	36 x 21 x 18 in.	155 lbs

Optional Integrations & Accessories

Part Number	Description	Standard User Installation	Optional UL508A Panel Shop Installation (Additional Fee Applies)
Kits			
KIT E H	HOA Switch & Speed Potentiometer	Yes	Yes
KIT E H1	HOA Switch Only	Yes	Yes
KIT E H2	Speed Potentiometer Only	Yes	Yes
KIT E S 240V 3P	Strikesorb Surge Protection, 240 V, Single-Phase	Yes	Yes
KIT E S 480V 3P	Strikesorb Surge Protection, 480 V, Single-Phase	Yes	Yes
KIT E S1 240V 3P	Protec Surge Protection	Yes	Yes
KIT E S1 480V 3P	Protec Surge Protection	Yes	Yes
Transducer			
S00150	0-150 psi Transducer with 15ft lead	Yes	No
S00150-25	0-150 psi Transducer with 25ft lead	Yes	No
S00150-50	0-150 psi Transducer with 50ft lead	Yes	No
S00150-100	0-150 psi Transducer with 100ft lead	Yes	No
Other Parts			
PSI SNUB	Pressure Snubber for Transducers	Yes	No
CVR0002	Keypad Locking Security Cover ENTERPRISE Enclosures	Yes	No
CVR0001	HOA Switch and Speed Pot Security Cover	Yes	No
LF0018	GPS Output Filter	Yes	No
Miscellaneous			
[Custom]	Run or Fault Indicator Light and 150VA Power Supply	No	Yes
[Custom]	Additional Run or Fault Indicator Light	No	Yes

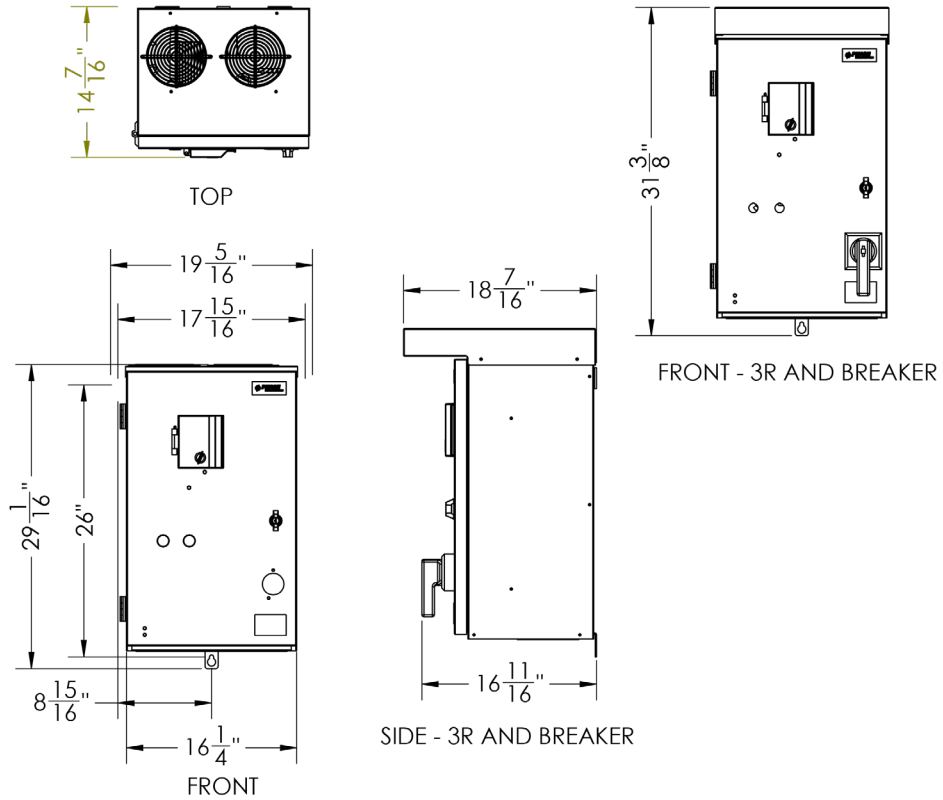
Recommended Fuse & Breaker Ratings

Model Number	Horsepower	VFD	
		Recommended Fuse Rating Class J	Recommended Circuit Breaker Rating
3LHE – ENTERPRISE – 208 V/240 V Three-Phase 208 V/240 V Output Three-Phase			
3LHE005R	5 HP	30 A, 600 V	30 A
3LHE007R	7.5 HP	30 A, 600 V	30 A
3LHE010R	10 HP	40 A, 600 V	40 A
3LHE015R	15 HP	60 A, 600 V	60 A
3LHE020R	20 HP	80 A, 600 V	80 A
3LHE025R	25 HP	100 A, 600 V	100 A
3LHE030R	30 HP	125 A, 600 V	125 A
3LHE – ENTERPRISE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase			
3LHE205R	5 HP	30 A, 600 V	30 A
3LHE207R	7.5 HP	30 A, 600 V	30 A
3LHE210R	10 HP	40 A, 600 V	40 A
3LHE215R	15 HP	60 A, 600 V	60 A
3LHE220R	20 HP	80 A, 600 V	80 A
3LHE225R	25 HP	100 A, 600 V	100 A
3LHE – ENTERPRISE – 480 V Input Three-Phase 480 V Output Three-Phase			
3LHE405R	5 HP	20 A, 600 V	20 A
3LHE407R	7.5 HP	20 A, 600 V	20 A
3LHE410R	10 HP	30 A, 600 V	30 A
3LHE415R	15 HP	30 A, 600 V	30 A
3LHE420R	20 HP	40 A, 600 V	40 A
3LHE425R	25 HP	60 A, 600 V	60 A
3LHE430R	30 HP	60 A, 600 V	60 A
3LHE440R	40 HP	80 A, 600 V	80 A
3LHE450R	50 HP	100 A, 600 V	100 A

Line Drawings

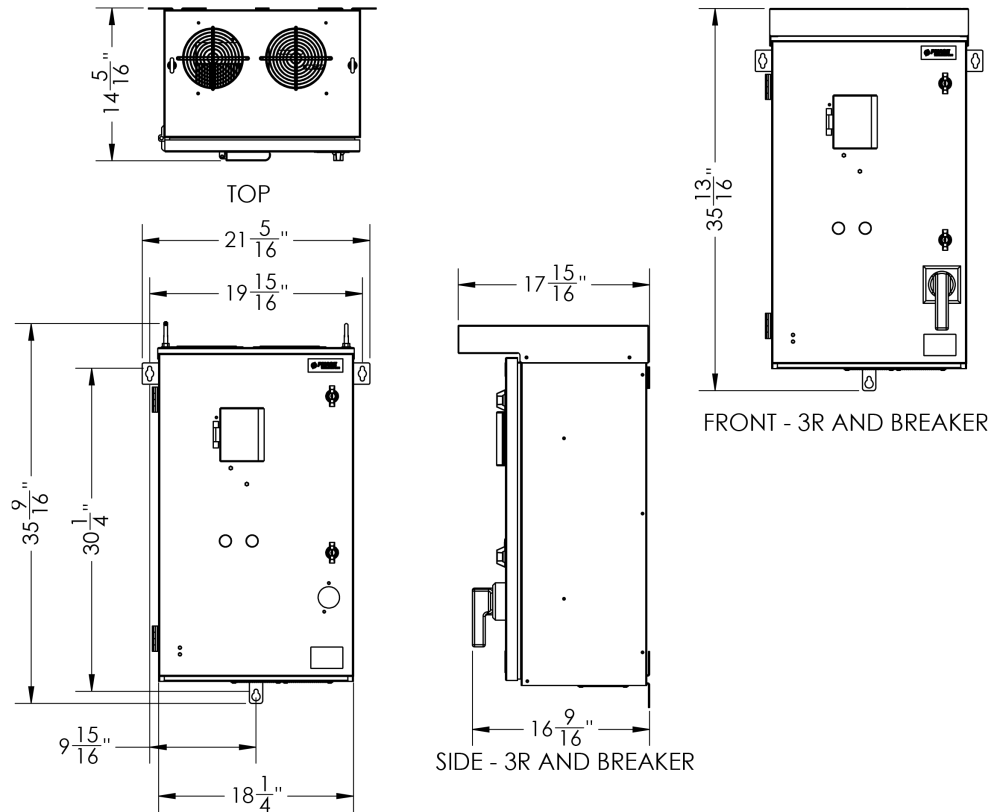
3LHE
SERIES

Model Number
3LHE005R
3LHE007R
3LHE205R
3LHE207R
3LHE405R
3LHE407R
3LHE410R



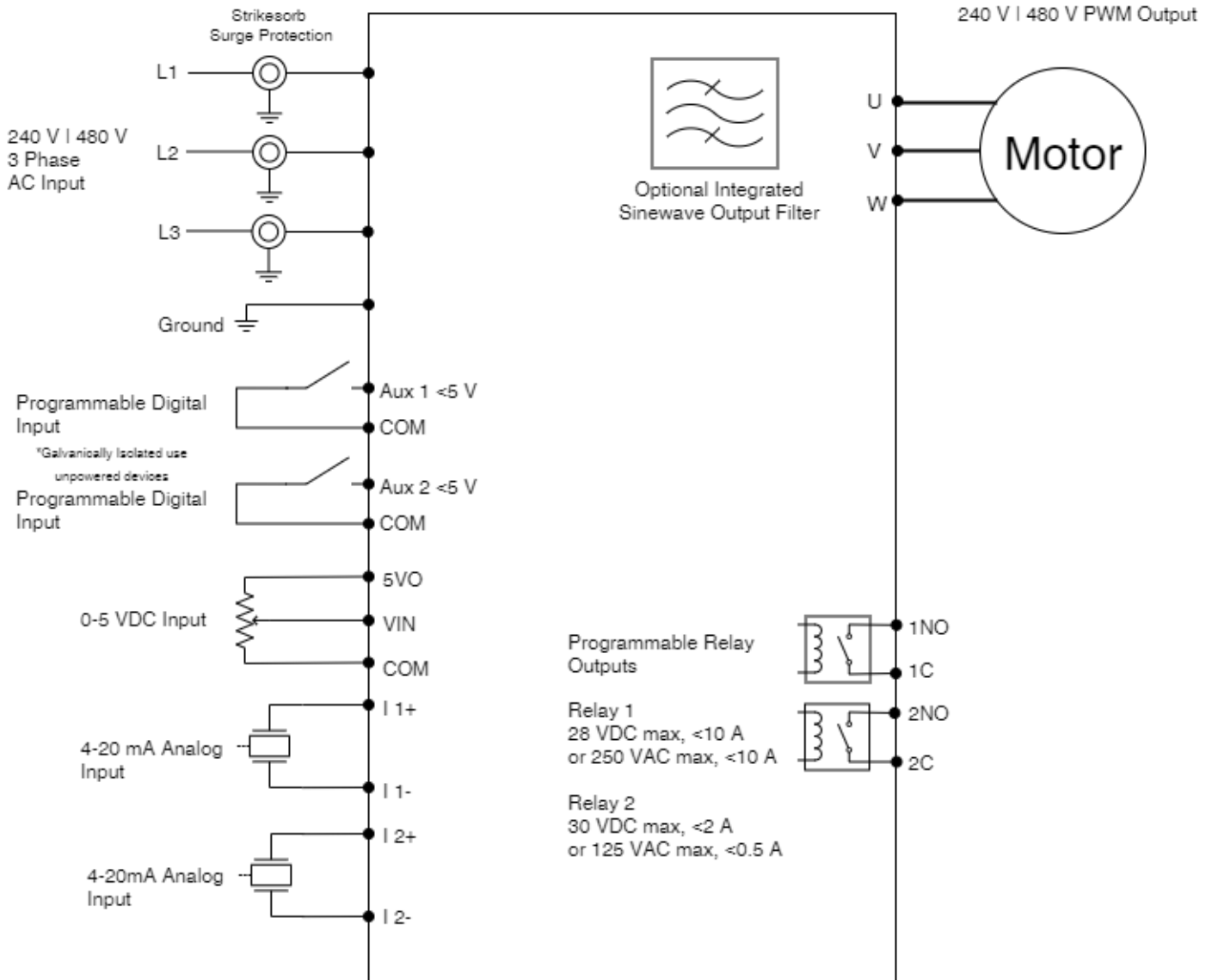
3LHE
SERIES

Model Number
3LHE010R
3LHE015R
3LHE020R
3LHE025R
3LHE030R
3LHE210R
3LHE215R
3LHE220R
3LHE225R
3LHE415R
3LHE420R
3LHE425R
3LHE430R
3LHE440R
3LHE450R



Wiring Diagram

3LHE SERIES Wiring Diagram



Notes

3LHS
SERIES



SIGNATURE

Enclosure

- 20 HP to 200 HP
- Input 240 V & 480 V | Output 480 V
- Three-Phase
- Voltage Doubling
- Low Harmonic – IEEE519 Compliance Guaranteed **IEEE**
- NEMA 3R Rated Outdoor Enclosure

Our Guarantee

IEEE 519 Compliance

Phase Technologies guarantees that the **LH** SERIES product line will meet the IEEE 519–2014 standard as long as a minimum load of 80% is maintained as related to the max current rating of the system. If a system does not comply, Phase Technologies will either offer a suitable fix to the bring the panel into compliance or offer a full refund for the purchase price of the panel upon return.

Nomenclature

SIGNATURE

3LHS SERIES

Example Part Number
3LHS220R-BHOS | 3LHS420R-BHOS

OPTIONAL UL508A Panel Shop Integrator



Model Series	Input / Output Voltage	Rated HP	Enclosure Rating	Branch Circuit Protection	Addl. User Controls	Output Filter	Surge Protection
3LHS SERIES	2 240V 480V Three-Phase Voltage Doubling	20 - 20 HP 30 - 30 HP 40 - 40 HP 50 - 50 HP 60 - 60 HP	R	B	Choose Option	Choose Option	S
	4 480V 480V Three-Phase	20 - 20 HP 30 - 30 HP 40 - 40 HP 50 - 50 HP 60 - 60 HP 75 - 75 HP 100 - 100 HP 125 - 125 HP 150 - 150 HP 200 - 200 HP	3R Rated Outdoor Type Rain / Bug Proof	MCCB Service Disconnect	H - HOA Switch & Speed Pot H1 - HOA Switch Only H2 - Speed Pot Only	O - Sinewave Filter OF - dV/dt Filter <i>Note: Only available up to 100 HP</i>	Strikesorb® Surge Protection

Technical Specifications



Physical / Environmental	
Operating Temperature Range	-40 °C – 50 °C (-40 °F – 122 °F) <i>*Heater in enclosure may be required below -40 °C, de-rating required above 50 °C.</i>
Storage Temperature Range	-40 °C – 57 °C (-40 °F – 135 °F)
Enclosure	NEMA Type 3R: Outdoor Rainproof
Altitude	Derate by 5 °C every 2000 ft over 5500 ft of elevation
Input Power	
Input Phase	3 phase
Input Voltage	240 V 480 V
Input Voltage Range	190 V – 264 V 440 V – 520 V
Input Frequency	60 Hz
Output Power	
Output Phase	3 phase
Nominal Output Voltage	480 V
Output Voltage Range	440 V – 520 V
Output Frequency	5 Hz – 300 Hz
Horsepower	20 HP – 200 HP
Output Power	15 – 150 kW
Switching Frequency	2 kHz – 5 kHz
Output	V/f Control or Torque Control (Optional)
Integrated Output Filter	Optional Sinewave or dV/dt Filter (20 HP – 100 HP models)
Electrical	
Short Circuit Withstand Rating	25 kA RMS symmetrical amps (65 kA available upon request)
Efficiency	95%
Startup Ramp Time	1 – 120 s
Shutdown Ramp Time	1 – 120 s or Coast to Stop
Overload Capacity	120% for 60 s
Analog Inputs	
Quantity	(3) Programmable
Current Reference	4 – 20 mA, (2) Inputs
Voltage Reference	0 – 5 VDC, (1) Input
Terminal Block Size	26 – 12 AWG
Digital Inputs	
Quantity	(4) Programmable
Ratings	< 5 V, galvanically isolated
Terminal Block Size	26 – 12 AWG
Relay Outputs	
Quantity	(4) Programmable
Rating	Relays 1 and 2: 28 VDC, 10 A or 250 VAC, 10 A Relays 3 and 4: 30 VDC, 2 A or 125 VAC, 0.5 A
Terminal Block Size	26 – 12 AWG
Features	
Low Harmonic Compliance	IEEE-519 Guaranteed – (See page 11 for guarantee statement)
Certification	ETL listed to UL 61800-5-1 and CSA C22.2 No. 274-17
User Interface	Push button membrane keypad with backlit graphic display
Available Feature Sets	AquaPhase™ (pump control)

Models

Part Number	HP	Rated Input Current	Rated Output Current [w/ 208 V Input w/ 240 V Input]	Dimensions (H x W x D)	Weight
3LHS – SIGNATURE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase					
3LHS220R	20 HP	61 A	26 A 31 A	53 x 23 x 18 in	220 lbs
3LHS230R	30 HP	91 A	40 A 46 A	62 x 31 x 22 in	340 lbs
3LHS240R	40 HP	121 A	53 A 61 A	62 x 31 x 22 in	370 lbs
3LHS250R	50 HP	142 A	66 A 77 A	71 x 34 x 24 in	480 lbs
3LHS260R	60 HP	172 A	79 A 91 A	71 x 34 x 24 in	530 lbs

Part Number	HP	Rated Input Current	Rated Output Current 480 V	Dimensions (H x W x D)	Weight
3LHS – SIGNATURE – 480 V Input Three-Phase 480 V Output Three-Phase					
3LHS420R	20 HP	31 A	31A	53 x 23 x 18 in.	180 lbs
3LHS430R	30 HP	46 A	46 A	53 x 23 x 18 in.	210 lbs
3LHS440R	40 HP	61 A	61 A	53 x 23 x 18 in.	215 lbs
3LHS450R	50 HP	77 A	77 A	53 x 23 x 18 in.	220 lbs
3LHS460R	60 HP	91 A	91 A	62 x 31 x 22 in.	375 lbs
3LHS475R	75 HP	107 A	107 A	62 x 31 x 22 in.	380 lbs
3LHS4100R	100 HP	142 A	142 A	62 x 31 x 22 in.	385 lbs
3LHS4125R	125 HP	172 A	172A	71 x 34 x 24 in.	475 lbs
3LHS4150R	150 HP	198 A	198 A	71 x 34 x 24 in.	480 lbs
3LHS4200R	200 HP	250 A	250A	71 x 41 x 24 in.	540 lbs



Optional Integrations & Accessories

Part Number	Description	Standard User Installation	Optional UL508A Panel Shop Installation
Kits			
ASPD013	Three-Phase Strikesorb Surge Protection Kit	n/a	n/a
SVK7000	Service Kit for All LH & DX Systems with RJ45 Connectors <i>(Signature & Performance Enclosures Only – 2018, 2019, 2020 models)</i>	n/a	n/a
LEGS07 or LEGS08	Pad Mount Kit (Legs)	Yes	No
Transducer			
S00150	0–150 psi Transducer with 15ft lead	Yes	No
S00150–25	0–150 psi Transducer with 25ft lead	Yes	No
S00150–50	0–150 psi Transducer with 50ft lead	Yes	No
S00150–100	0–150 psi Transducer with 100ft lead	Yes	No
Other Parts			
PSI SNUB	Pressure Snubber for Transducers	Yes	No
CVR0001	HOA Switch and Speed Pot Security Cover	Yes	No
LF0018	GPS Output Filter	Yes	No
Miscellaneous			
[Custom]	Run or Fault Indicator Light and 150VA Power Supply	No	Yes
[Custom]	Additional Run or Fault Indicator Light	No	Yes



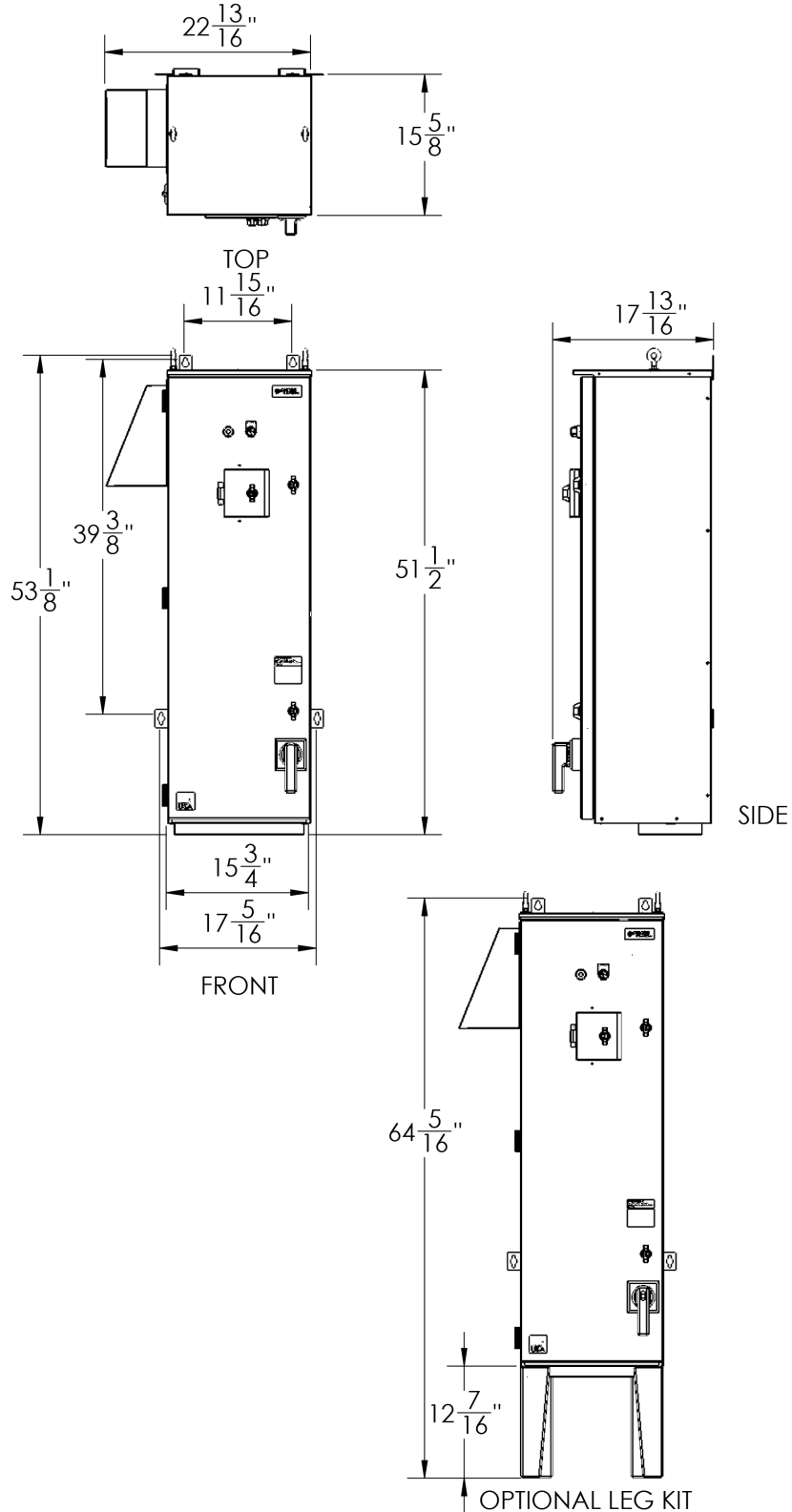
Recommended Fuse & Breaker Ratings

Model Number	Horsepower	VFD	
		Recommended Fuse Rating Class J	Recommended Circuit Breaker Rating
3LHS – SIGNATURE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase			
3LHS220R	20 HP	80 A, 600 V	80 A
3LHS230R	30 HP	125 A, 600 V	125 A
3LHS240R	40 HP	175 A, 600 V	175 A
3LHS250R	50 HP	200 A, 600 V	200 A
3LHS260R	60 HP	250 A, 600 V	250 A
3LHS – SIGNATURE – 480 V Input Three-Phase 480 V Output Three-Phase			
3LHS420R	20 HP	40 A, 600 V	40 A
3LHS430R	30 HP	60 A, 600 V	60 A
3LHS440R	40 HP	80 A, 600 V	80 A
3LHS450R	50 HP	100 A, 600 V	100 A
3LHS460R	60 HP	125 A, 600 V	125 A
3LHS475R	75 HP	150 A, 600 V	150 A
3LHS4100R	100 HP	200 A, 600 V	200 A
3LHS4125R	125 HP	250 A, 600 V	250 A
3LHS4150R	150 HP	250 A, 600 V	250 A
3LHS4200R	200 HP	400 A, 600 V	400 A

Line Drawings

3LHS
SERIES

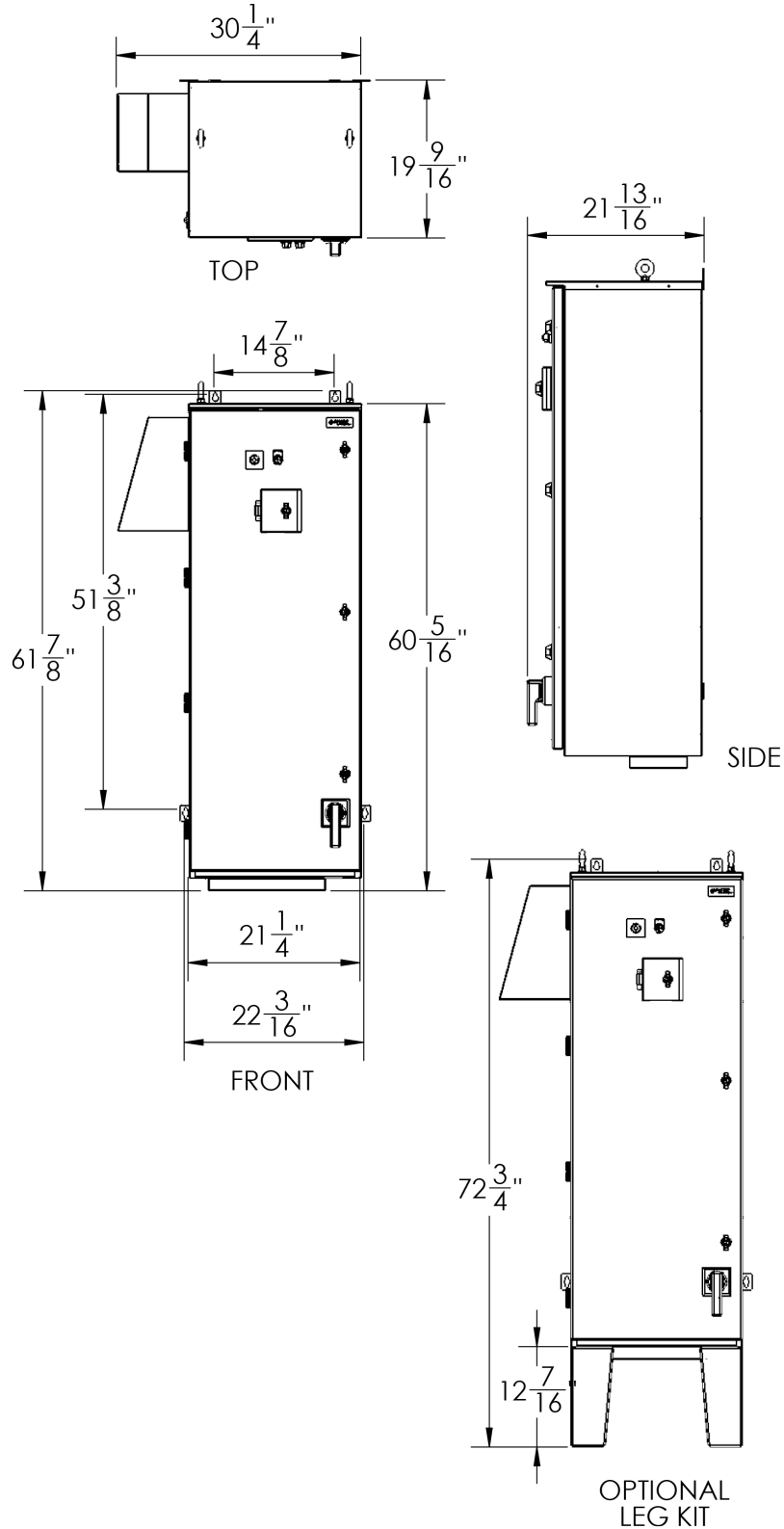
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3LHS220R
3LHS420R
3LHS430R
3LHS440R
3LHS450R



Line Drawings

3LHS
SERIES

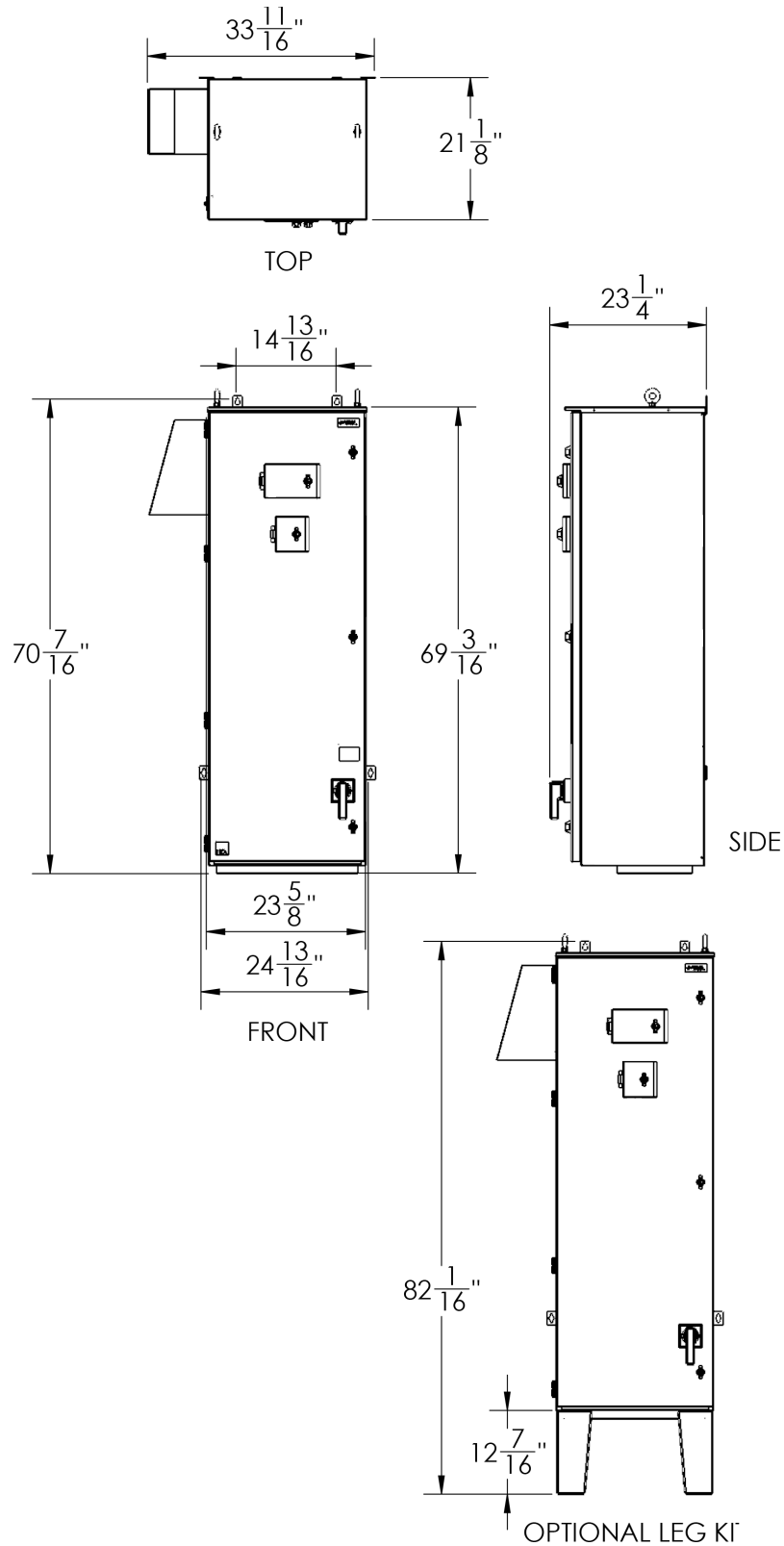
Model Number
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3LHS460R
3LHS475R
3LHS4100R



Line Drawings

3LHS
SERIES

Model Number
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3LHS4150R
3LHS4200R

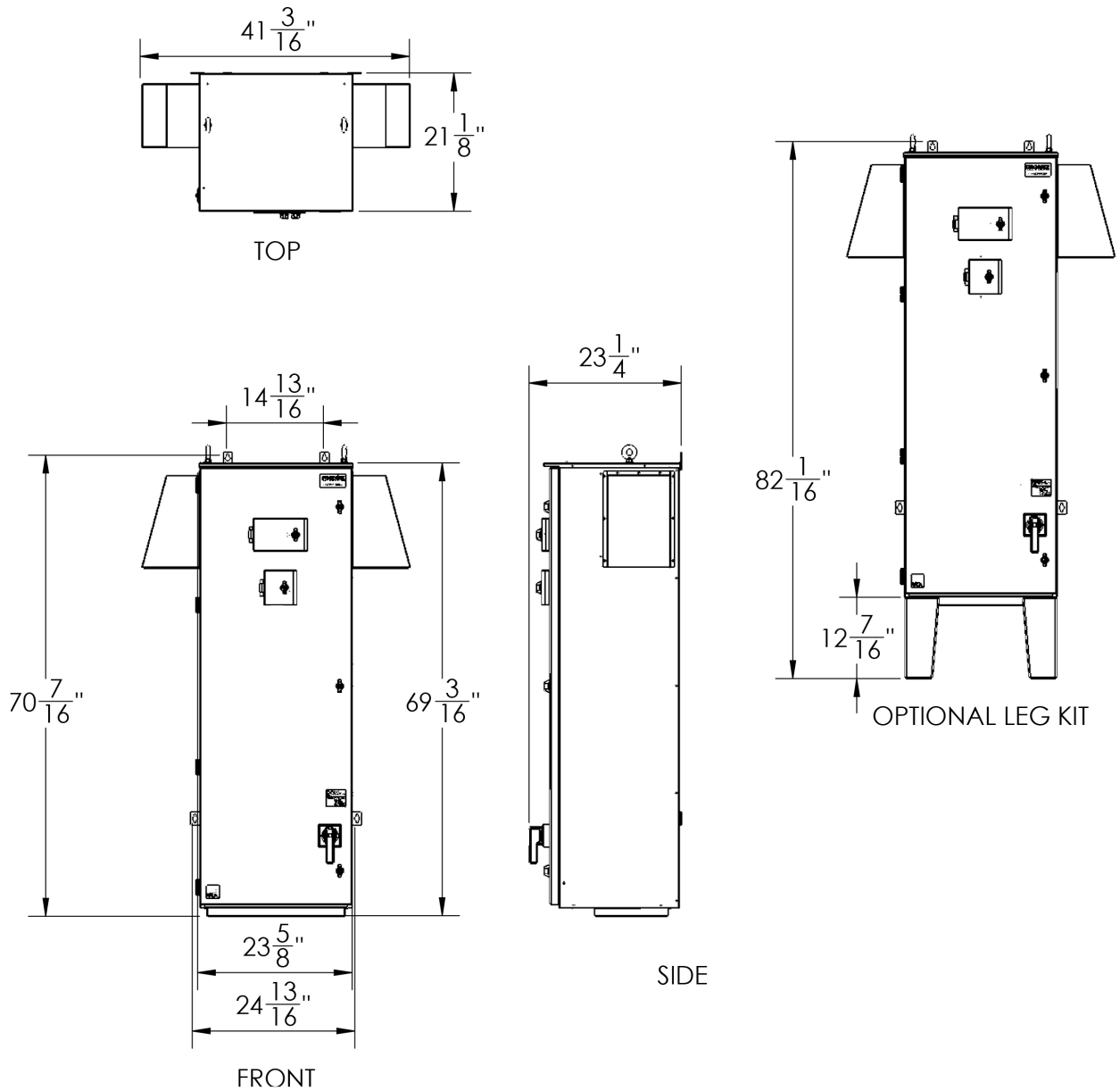


Line Drawings

3LHS
SERIES

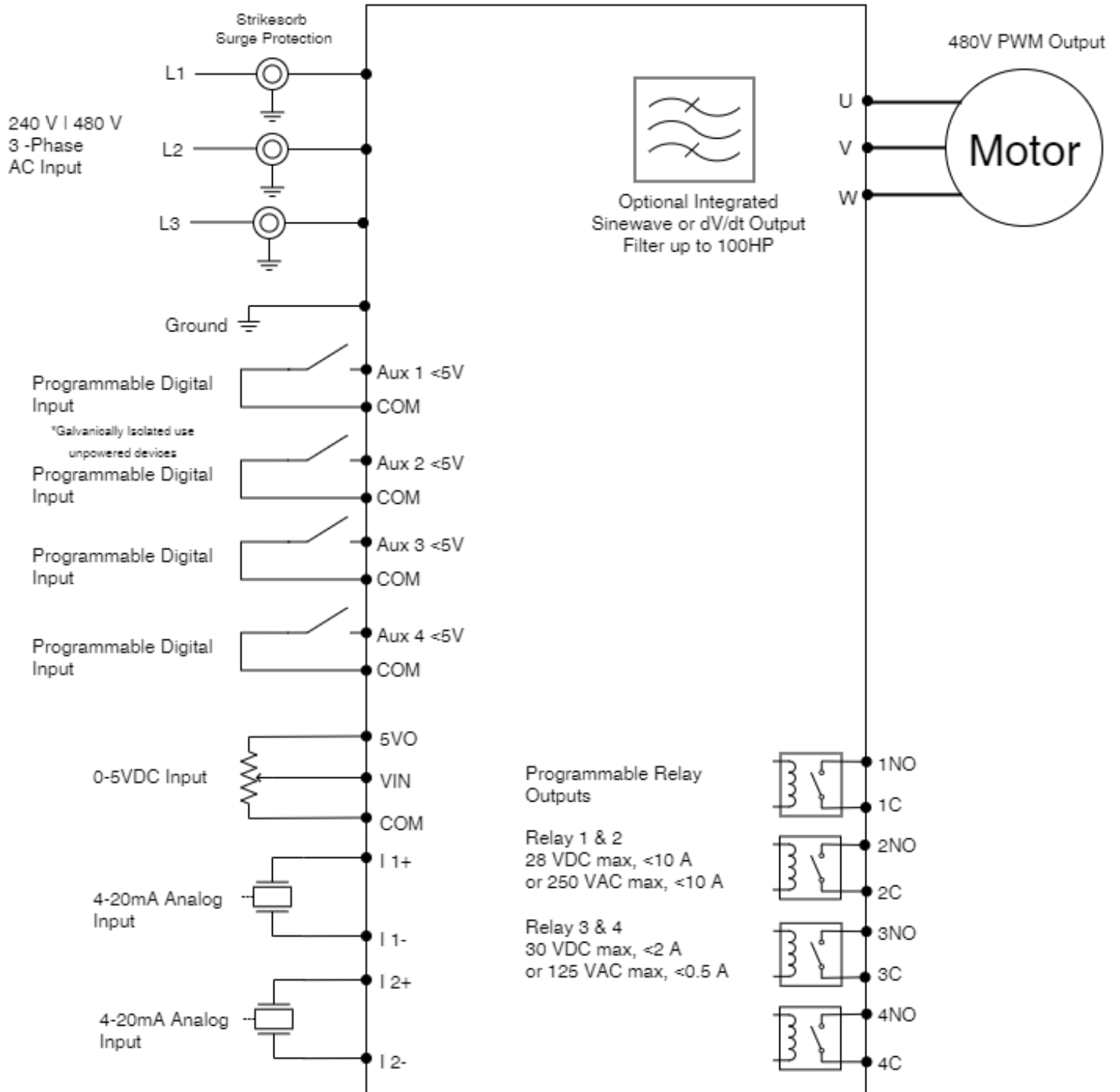
Model Number

3LHS4200R



Wiring Diagram

3LHS
SERIES Wiring Diagram




SIGNATURE

Notes

3LH
SERIES



PERFORMANCE Enclosure

- 20 HP to 450 HP
- Input 240 V & 480 V | Output 480 V
- Three-Phase
- Voltage Doubling
- Low Harmonic – IEEE519 Compliance Guaranteed 
- NEMA 3R Rated Outdoor Enclosure

Our Guarantee

IEEE 519 Compliance

Phase Technologies guarantees that the LH SERIES product line will meet the IEEE 519–2014 standard as long as a minimum load of 80% is maintained as related to the max current rating of the system. If a system does not comply, Phase Technologies will either offer a suitable fix to bring the panel into compliance or offer a full refund for the purchase price of the panel upon return.

Nomenclature

Model Series	Input / Output Voltage	Rated HP	Enclosure Rating	Branch Circuit Protection	Add. User Controls	Output Filter	System Bypass	Surge Protection
3LH SERIES	240V 480V Three-Phase Voltage Doubling	20 - 20 HP 30 - 30 HP 40 - 40 HP 50 - 50 HP 60 - 60 HP	R 3R Rated Outdoor Type Rain / Bug Proof	B MCCB Service Disconnect	Choose Option H - HOA Switch & Speed Pot H1 - HOA Switch Only H2 - Speed Pot Only	Choose Option O - Sinewave Filter OF - dV/dt Filter <i>Note: Only available up to 100 HP</i>	Q System Bypass <small>Includes MCCB Service Disconnect (Do not add B if adding Q)</small>	S Strikesorb® Surge Protection
3LH SERIES	480V 480V Three-Phase	20 - 20 HP 30 - 30 HP 40 - 40 HP 50 - 50 HP 60 - 60 HP 75 - 75 HP 100 - 100 HP 125 - 125 HP 150 - 150 HP 200 - 200 HP 250 - 250 HP 300 - 300 HP 350 - 350 HP 400 - 400 HP 450 - 450 HP						

PERFORMANCE Example Part Number
3LH SERIES 3LH220R-BHOQS | 3LH420R-BHOQS

OPTIONAL UL508A Panel Shop Integrator



Technical Specifications

PERFORMANCE

Physical / Environmental	
Operating Temperature Range	-40 °C – 50 °C (-40 °F – 122 °F) <i>*Heater in enclosure may be required below -40 °C, de-rating required above 50 °C.</i>
Storage Temperature Range	-40 °C – 57 °C (-40 °F – 135 °F)
Enclosure	NEMA Type 3R: Outdoor Rainproof
Altitude	Derate by 5 °C every 2000 ft over 5500 ft of elevation
Input Power	
Input Phase	3 phase
Input Voltage	240 V 480 V
Input Voltage Range	190 V – 264V 440 V – 520 V
Input Frequency	60 Hz
Output Power	
Output Phase	3 phase
Nominal Output Voltage	480 V
Output Voltage Range	440 V – 520 V
Output Frequency	5 Hz – 300 Hz
Horsepower	20 HP – 450 HP
Output Power	15 – 336 kW
Switching Frequency	2 kHz – 5 kHz
Output	V/f Control or Torque Control (Optional)
Integrated Output Filter	Optional Sinewave or dV/dt Filter (20 HP – 100 HP models)
Electrical	
Short Circuit Withstand Rating	25 kA RMS symmetrical amps (65 kA available upon request)
Efficiency	95%
Startup Ramp Time	1 – 120 s
Shutdown Ramp Time	1 – 120 s or Coast to Stop
Overload Capacity	120% for 60 s
Analog Inputs	
Quantity	(3) Programmable
Current Reference	4 – 20 mA, (2) Inputs
Voltage Reference	0 – 5 VDC, (1) Input
Terminal Block Size	26 – 12 AWG
Digital Inputs	
Quantity	(4) Programmable
Ratings	< 5 V, galvanically isolated
Terminal Block Size	26 – 12 AWG
Relay Outputs	
Quantity	(4) Programmable
Rating	Relays 1 and 2: 28 VDC, 10 A or 250 VAC, 10 A Relays 3 and 4: 30 VDC, 2 A or 125 VAC, 0.5 A
Terminal Block Size	26 – 12 AWG
Features	
Low Harmonic Compliance	IEEE-519 Guaranteed – (See page 20 for guarantee statement)
Certification	ETL listed to UL 61800-5-1 and CSA C22.2 No. 274-17
User Interface	Push button membrane keypad with backlit graphic display
Available Feature Sets	AquaPhase™ (pump control)

Models

Part Number	HP	Rated Input Current	Rated Output Current <small>[w/ 208 V Input w/ 240 V Input]</small>	Dimensions (H x W x D)	Weight
3LH – PERFORMANCE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase					
3LH220R	20 HP	61 A	26 A 31 A	54 x 39 x 20 in	450 lbs
3LH230R	30 HP	91 A	40 A 46 A	61 x 46 x 22 in	615 lbs
3LH240R	40 HP	121 A	53 A 61 A	61 x 46 x 22 in	630 lbs
3LH250R	50 HP	142 A	66 A 77A	63 x 60 x 23 in	645 lbs
3LH260R	60 HP	172 A	79 A 91A	63 x 60 x 23 in	810 lbs

Part Number	HP	Rated Input Current	Rated Output Current 480 V	Dimensions (H x W x D)	Weight
3LH – PERFORMANCE – 480 V Input Three-Phase 480 V Output Three-Phase					
3LH420R	20 HP	31 A	31 A	54 x 39 x 20 in	445 lbs
3LH430R	30 HP	46 A	46 A	54 x 39 x 20 in	445 lbs
3LH440R	40 HP	61 A	61 A	54 x 39 x 20 in	450 lbs
3LH450R	50 HP	77 A	77 A	54 x 39 x 20 in	450 lbs
3LH460R	60 HP	91 A	91 A	61 x 46 x 22 in	615 lbs
3LH475R	75 HP	107 A	107 A	61 x 46 x 22 in	620 lbs
3LH4100R	100 HP	142 A	142 A	61 x 46 x 22 in	645 lbs
3LH4125R	125 HP	172 A	172 A	63 x 60 x 23 in	810 lbs
3LH4150R	150 HP	198 A	198 A	63 x 60 x 23 in	890 lbs
3LH4200R	200 HP	250 A	250 A	63 x 60 x 23 in	935 lbs
3LH4250R	250 HP	304 A	304 A	63 x 60 x 23 in	950 lbs
3LH4300R	300 HP	362 A	362 A	63 x 60 x 23 in	980 lbs
3LH4350R	350 HP	415 A	415 A	63 x 60 x 23 in	1,050 lbs
3LH4400R	400 HP	478 A	478 A	63 x 60 x 23 in	1,320 lbs
3LH4450R	450 HP	515 A	515 A	63 x 60 x 23 in	1,330 lbs

Optional Integrations & Accessories

Part Number	Description	Standard User Installation	Optional UL508A Panel Shop Installation
Kits			
ASPD013	Three-Phase Strikesorb Surge Protection Kit	n/a	n/a
SVK7000	Service Kit for All LH & DX Systems with RJ45 Connectors (Signature & Performance Enclosures Only – 2018, 2019, 2020 models)	n/a	n/a
LEGS01, LEGS02 or LEGS03	Pad Mount Kit (Legs)	Yes	No
Transducer			
S00150	0–150 psi Transducer with 15ft lead	Yes	No
S00150–25	0–150 psi Transducer with 25ft lead	Yes	No
S00150–50	0–150 psi Transducer with 50ft lead	Yes	No
S00150–100	0–150 psi Transducer with 100ft lead	Yes	No
Other Parts			
PSI SNUB	Pressure Snubber for Transducers	Yes	No
CVR0001	HOA Switch and Speed Pot Security Cover	Yes	No
LF0018	GPS Output Filter	Yes	No
Miscellaneous			
[Custom]	Run or Fault Indicator Light and 150VA Power Supply	No	Yes
[Custom]	Additional Run or Fault Indicator Light	No	Yes

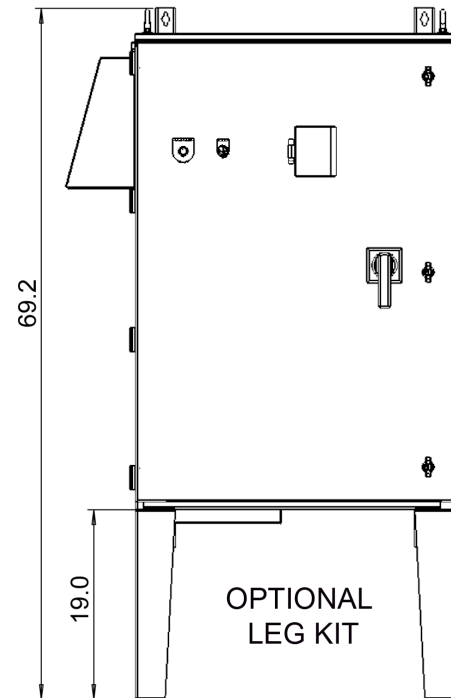
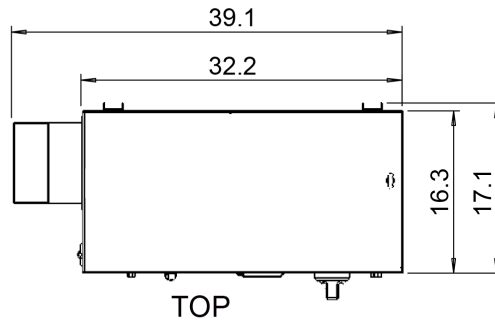
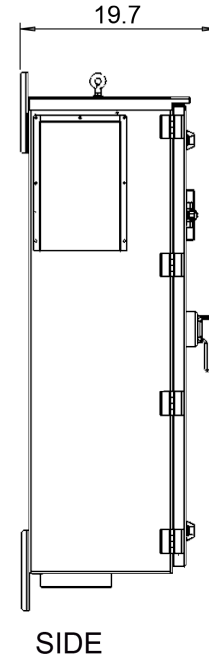
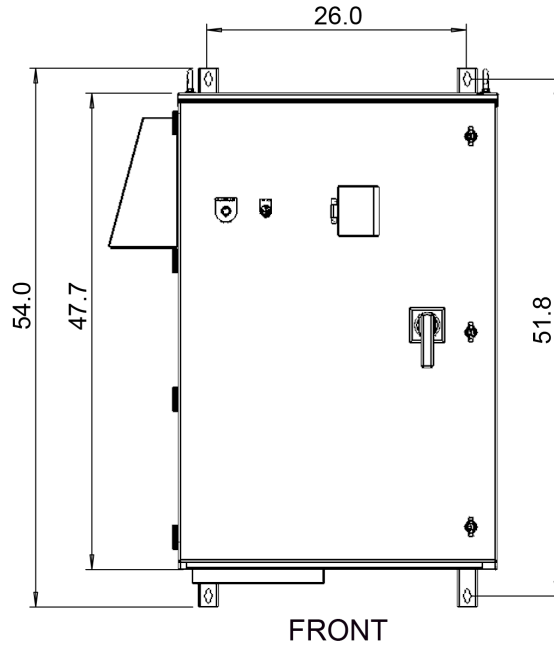
Recommended Fuse & Breaker Ratings

Model Number	Horsepower	VFD		VFD With Bypass (Q) Option
		Recommended Fuse Rating Class J	Recommended Circuit Breaker Rating	Installed Circuit Breaker Rating
3LH – PERFORMANCE – 208 V/240 V Input Three-Phase 480 V Output Three-Phase				
3LH220R	20 HP	80 A, 600 V	80 A	150 A
3LH230R	30 HP	125 A, 600 V	125 A	225 A
3LH240R	40 HP	175 A, 600 V	175 A	300 A
3LH250R	50 HP	200 A, 600 V	200 A	350 A
3LH260R	60 HP	250 A, 600 V	250 A	400 A
3LH – PERFORMANCE – 480 V Input Three-Phase 480 V Output Three-Phase				
3LH420R	20 HP	40 A, 600 V	40 A	60 A
3LH430R	30 HP	60 A, 600 V	60 A	125 A
3LH440R	40 HP	80 A, 600 V	80 A	150 A
3LH450R	50 HP	100 A, 600 V	100 A	200 A
3LH460R	60 HP	125 A, 600 V	125 A	225 A
3LH475R	75 HP	150 A, 600 V	150 A	250 A
3LH4100R	100 HP	200 A, 600 V	200 A	350 A
3LH4125R	125 HP	250 A, 600 V	250 A	400 A
3LH4150R	150 HP	250 A, 600 V	250 A	500 A
3LH4200R	200 HP	350 A, 600 V	350 A	600 A
3LH4250R	250 HP	400 A, 600 V	400 A	800 A
3LH4300R	300 HP	500 A, 600 V	500 A	1000 A
3LH4350R	350 HP	600 A, 600 V	600 A	1200 A
3LH4400R	400 HP	600 A, 600 V	600 A	1200 A
3LH4450R	450 HP	800 A, 600 V	800 A	1600 A

Line Drawings

3LH
SERIES

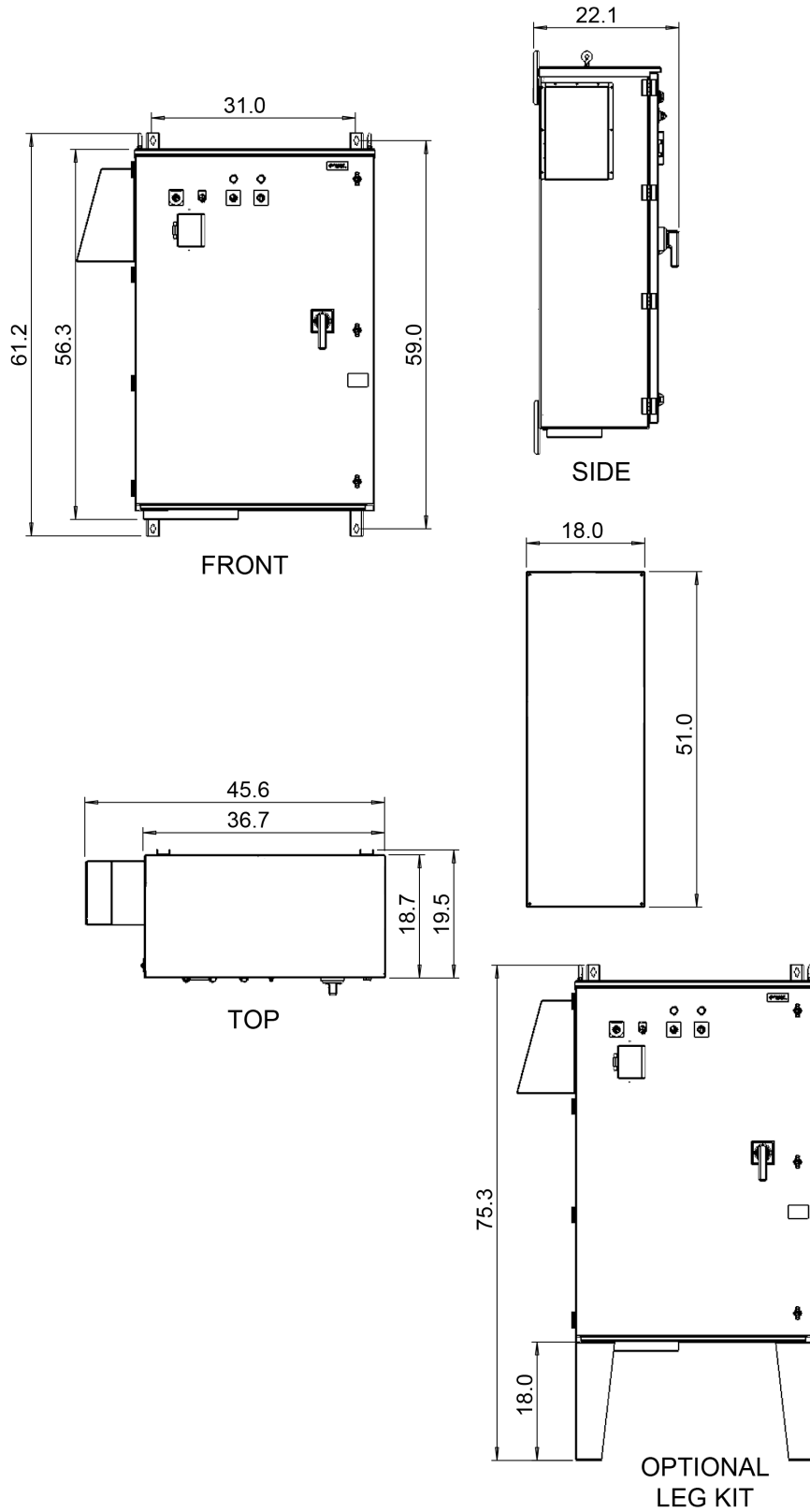
Model Number
3LH220R
3LH420R
3LH430R
3LH440R
3LH450R



Line Drawings

3LH
SERIES

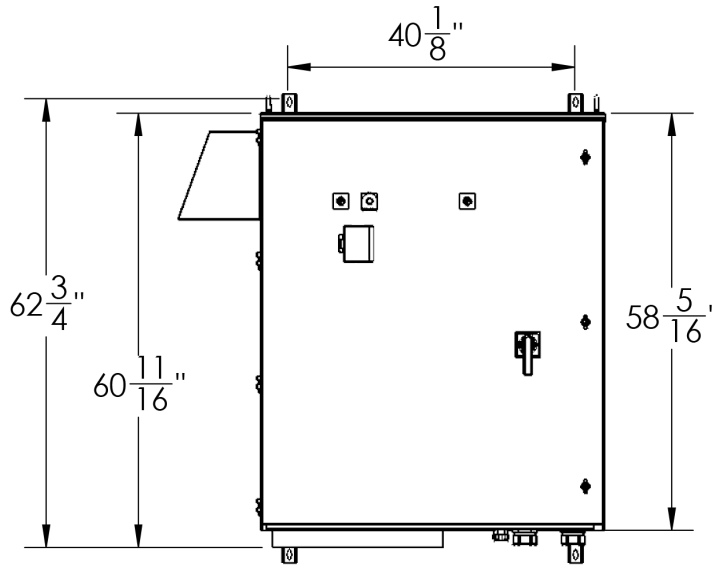
Model Number
3LH230R
3LH240R
3LH460R
3LH475R
3LH4100R



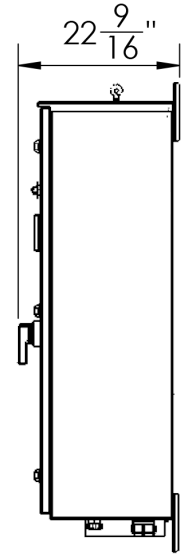
Line Drawings

3LH
SERIES

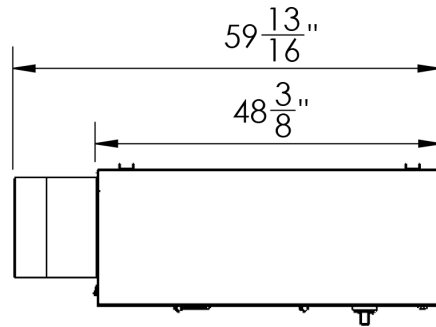
Model Number
3LH250R
3LH260R
3LH4125R
3LH4150R
3LH4200R
3LH4250R
3LH4300R
3LH4350R
3LH4400R
3LH4450R



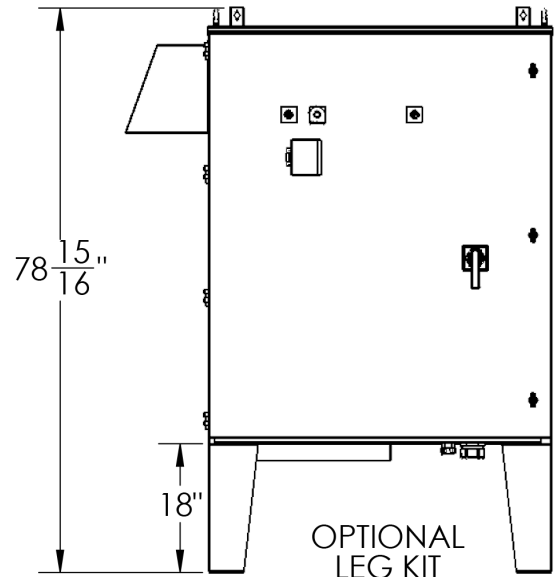
FRONT



SIDE



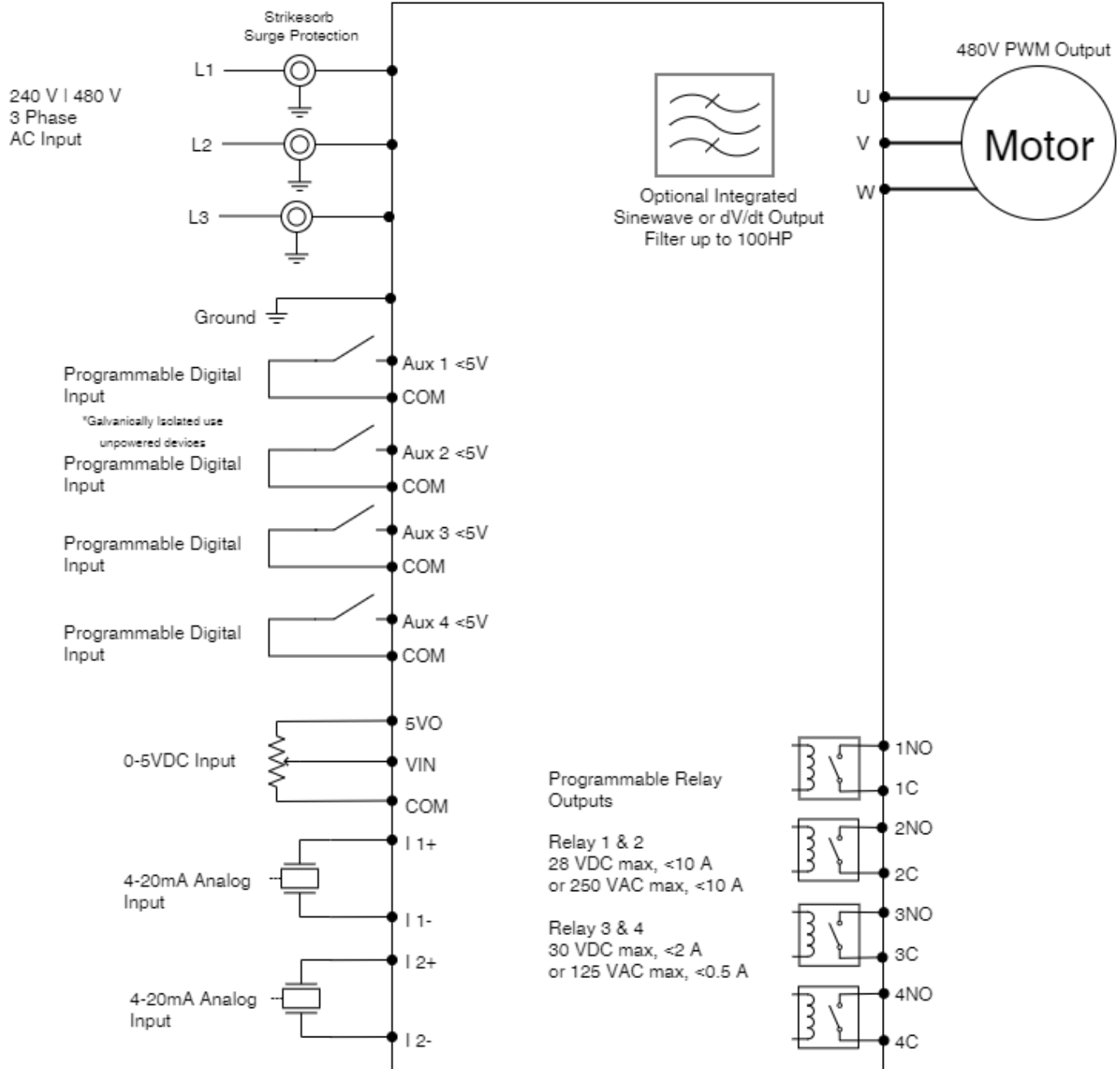
TOP



OPTIONAL
LEG KIT

Wiring Diagram

3LH SERIES Wiring Diagram



Notes
