

LHX

LOW HARMONIC

VARIABLE FREQUENCY DRIVES



Physical / Environmental

| | |
|-----------------------------|--|
| Operating Temperature Range | -40 °C – 50 °C (-40 °F – 104 °F) *Heater in enclosure may be required below –40 °C, de-rating required above 40 ° |
| Storage Temperature Range | -40 °C – 57 °C (-40 °F – 135 °F) |
| Enclosure | NEMA Open, NEMA Type 1: Indoor |
| Altitude | Altitude Derate by 1% every 400 ft above 3300 ft elevation |

Input Power

| | |
|---------------------|-------------------------------|
| Input Phase | single-phase or three-phase |
| Input Voltage | 230 V 460 V |
| Input Voltage Range | 190 V – 264 V 440 V – 520 V |
| Input Frequency | 50/60 Hz |

Output Power

| | |
|------------------------|--|
| Output Phase | three-phase |
| Nominal Output Voltage | 230 V 460 V |
| Output Voltage Range | 100 V – 270V 200 V – 530 V |
| Output Frequency | 5 Hz – 120 Hz |
| Horsepower | 5 HP - 500 HP |
| Output Power | 1.5 - 409 kW |
| Switching Frequency | 2 kHz – 5 kHz |
| Output | V/f control or torque Control (Optional) |

Electrical

| | |
|--------------------------------|----------------------------|
| Short Circuit Withstand Rating | 65 kA RMS symmetrical Amps |
| Efficiency | > 98% |
| Startup Ramp Time | 1 – 120 s |
| Shutdown Ramp Time | 1 – 120 s or Coast to Stop |
| Overload Capacity | 110% for 60 s |



Analog Inputs

| | |
|---------------------|-----------------------|
| Quantity | (3) Programmable |
| Current Reference | 4 – 20 mA, (2) Inputs |
| Voltage Reference | 0 – 10 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 | Relay 1 : 30 VDC or 277 VAC, 10 A Relay 2 : 30 VDC or 277 VAC, 10 A Relay 3 : 30 VDC, 2 A or 125 VAC, 0.5 A Relay 4 : 30 VDC, 2 A or 125 VAC, 0.5 A |
| Terminal Block Size | 26 - 12 AWG |

Features

| | |
|-------------------------|--|
| Low Harmonic Compliance | IEEE-519 Guaranteed |
| 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 |



1LHX - 230V

230V

| Model / Part Number | HP | Rated Current (Input) | Rated Current (Output) | Fuze Rating (Recommended) | Circuit Breaker Rating (Recommended) |
|---------------------|-----|-----------------------|------------------------|---------------------------|--------------------------------------|
| 1LHX005 | 5 | 18 A | 18 A | 40 A, 600 V | 40 A |
| 1LHX007 | 7.5 | 24 A | 24 A | 60 A, 600 V | 60 A |
| 1LHX010 | 10 | 31 A | 31 A | 60 A, 600 V | 60 A |
| 1LHX015 | 15 | 46 A | 46 A | 100 A, 600 V | 100 A |
| 1LHX020 | 20 | 61 A | 61 A | 125 A, 600 V | 125 A |

1LHX - Voltage Doubling

Voltage Doubling

| Model / Part Number | HP | Rated Current (Input) | Rated Current (Output) | Fuze Rating (Recommended) | Circuit Breaker Rating (Recommended) |
|---------------------|----|-----------------------|------------------------|---------------------------|--------------------------------------|
| 1LHX205 | 5 | 26 A | 9 A | 40 A, 600 V | 40 A |
| 1LHX207 | 7 | 37 A | 13 A | 60 A, 600 V | 60 A |
| 1LHX210 | 10 | 50 A | 18 A | 70 A, 600 V | 60 A |
| 1LHX215 | 15 | 67 A | 24 A | 100 A, 600 V | 100 A |
| 1LHX220 | 20 | 97 A | 31 A | 125 A, 600 V | 125 A |
| 1LHX230 | 30 | 139 A | 46 A | 175 A, 600 V | 175 A |
| 1LHX240 | 40 | 196 A | 61 A | 250 A, 600 V | 250 A |
| 1LHX250 | 50 | 226 A | 77 A | 300 A, 600 V | 300 A |
| 1LHX260 | 60 | 282 A | 91 A | 400 A, 600 V | 400 A |



1LHX - 460V

| 460V | Model / Part Number | HP | Rated Current (Input) | Rated Current (Output) | Fuze Rating (Recommended) | Circuit Breaker Rating (Recommended) |
|------|------------------------|-----|--------------------------|---------------------------|------------------------------|--|
| | 1LHX405 | 5 | 13 A | 9 A | 20 A, 600 V | 20 A |
| | 1LHX407 | 7.5 | 19 A | 13 A | 30 A, 600 V | 30 A |
| | 1LHX410 | 10 | 26 A | 18 A | 40 A, 600 V | 40 A |
| | 1LHX415 | 15 | 36 A | 25 A | 60 A, 600 V | 60 A |
| | 1LHX420 | 20 | 48 A | 31 A | 60 A, 600 V | 60 A |
| | 1LHX425 | 25 | 60 A | 38 A | 80 A, 600 V | 80 A |
| | 1LHX430 | 30 | 72 A | 46 A | 100 A, 600 V | 100 A |
| | 1LHX440 | 40 | 98 A | 61 A | 125 A, 600 V | 125 A |
| | 1LHX450 | 50 | 121 A | 77 A | 175 A, 600 V | 175 A |
| | 1LHX460 | 60 | 143 A | 91 A | 200 A, 600 V | 200 A |
| | 1LHX475 | 75 | 170 A | 107 A | 250 A, 600 V | 250 A |
| | 1LHX4100 | 100 | 226 A | 142 A | 300 A, 600 V | 300 A |
| | 1LHX4125 | 125 | 273 A | 172 A | 300 A, 600 V | 300 A |
| | 1LHX4150 | 150 | 315 A | 198 A | 350 A, 600 V | 350 A |



3LHX - 230V

230V

| Model / Part Number | HP | Rated Current (Input) | Rated Current (Output) | Fuze Rating (Recommended) | Circuit Breaker Rating (Recommended) |
|---------------------|-----|-----------------------|------------------------|---------------------------|--------------------------------------|
| 3LHX005 | 5 | 18 A | 18 A | 30 A, 600 V | 30 A |
| 3LHX007 | 7.5 | 25 A | 25 A | 30 A, 600 V | 30 A |
| 3LHX010 | 10 | 31 A | 31 A | 40 A, 600 V | 40 A |
| 3LHX015 | 15 | 46 A | 46 A | 60 A, 600 V | 60 A |
| 3LHX020 | 20 | 61 A | 61 A | 80 A, 600 V | 80 A |
| 3LHX025 | 25 | 75 A | 75 A | 100 A, 600 V | 100 A |
| 3LHX030 | 30 | 91 A | 91 A | 125 A, 600 V | 125 A |

3LHX - Voltage Doubling

Voltage Doubling

| Model / Part Number | HP | Rated Current (Input) | Rated Current (Output) | Fuze Rating (Recommended) | Circuit Breaker Rating (Recommended) |
|---------------------|----|-----------------------|------------------------|---------------------------|--------------------------------------|
| 3LHX205 | 5 | 18 A | 9 A | 30 A, 600 V | 30 A |
| 3LHX207 | 7 | 25 A | 13 A | 30 A, 600 V | 30 A |
| 3LHX210 | 10 | 30 A | 18 A | 40 A, 600 V | 40 A |
| 3LHX215 | 15 | 46 A | 25 A | 60 A, 600 V | 60 A |
| 3LHX220 | 20 | 60 A | 31 A | 80 A, 600 V | 80 A |
| 3LHX230 | 30 | 91 A | 46 A | 125 A, 600 V | 125 A |
| 3LHX240 | 40 | 121 A | 61 A | 175 A, 600 V | 175 A |
| 3LHX250 | 50 | 152 A | 77 A | 225 A, 600 V | 225 A |
| 3LHX260 | 60 | 182 A | 91 A | 275 A, 600 V | 275 A |
| 3LHX275 | 75 | 214 A | 107 A | 325 A, 600 V | 325 A |



3LHX - 460V

460V

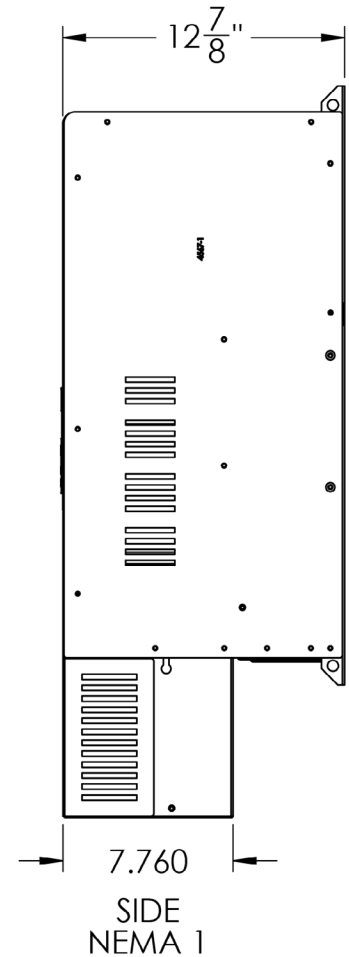
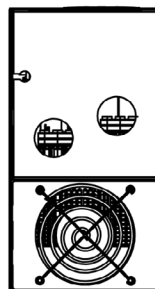
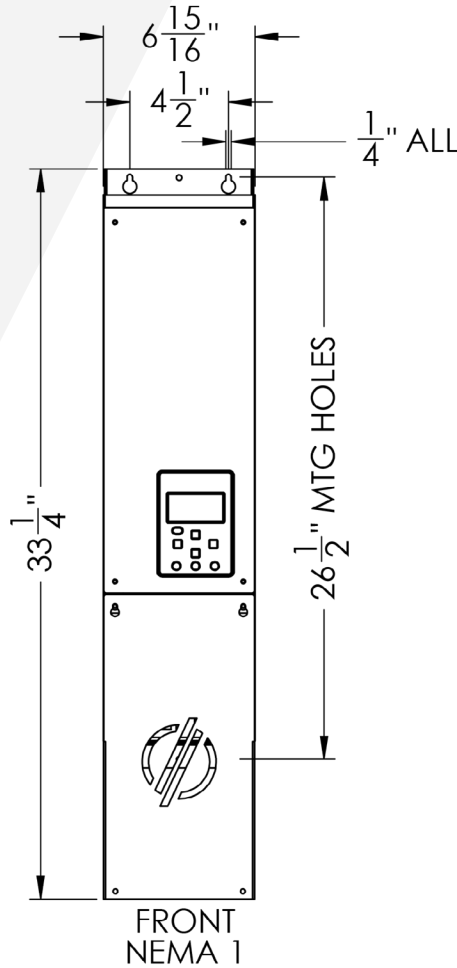
| <i>Model / Part Number</i> | <i>HP</i> | <i>Rated Current (Input)</i> | <i>Rated Current (Output)</i> | <i>Fuze Rating (Recommended)</i> | <i>Circuit Breaker Rating (Recommended)</i> |
|--------------------------------|-----------|----------------------------------|-----------------------------------|--------------------------------------|---|
| 3LHX405 | 5 | 9 A | 9 A | 20 A, 600 V | 20 A |
| 3LHX407 | 7.5 | 13 A | 13 A | 20 A, 600 V | 20 A |
| 3LHX410 | 10 | 18 A | 18 A | 30 A, 600 V | 30 A |
| 3LHX415 | 15 | 24 A | 24 A | 30 A, 600 V | 30 A |
| 3LHX420 | 20 | 31 A | 31 A | 40 A, 600 V | 40 A |
| 3LHX425 | 25 | 38 A | 38 A | 50 A, 600 V | 50 A |
| 3LHX430 | 30 | 46 A | 46 A | 60 A, 600 V | 60 A |
| 3LHX440 | 40 | 61 A | 61 A | 80 A, 600 V | 80 A |
| 3LHX450 | 50 | 77 A | 77 A | 100 A, 600 V | 100 A |
| 3LHX460 | 60 | 91 A | 91 A | 125 A, 600 V | 125 A |
| 3LHX475 | 75 | 107 A | 107 A | 150 A, 600 V | 150 A |
| 3LHX4100 | 100 | 142 A | 142 A | 200 A, 600 V | 200 A |
| 3LHX4125 | 125 | 172 A | 172 A | 250 A, 600 V | 250 A |
| 3LHX4150 | 150 | 198 A | 198 A | 250 A, 600 V | 250 A |
| 3LHX4200 | 200 | 250 A | 250 A | 350 A, 600 V | 350 A |
| 3LHX4250 | 250 | 304 A | 304 A | 400 A, 600 V | 400 A |
| 3LHX4300 | 300 | 365 A | 365 A | 500 A, 600 V | 500 A |
| 3LHX4350 | 350 | 415 A | 415 A | 600 A, 600 V | 600 A |
| 3LHX4400 | 400 | 478 A | 478 A | 700 A, 600 V | 700A |
| 3LHX4500 | 500 | 590 A | 590 A | 800 A, 600 V | 800 A |



LHX6

MODEL NUMBER

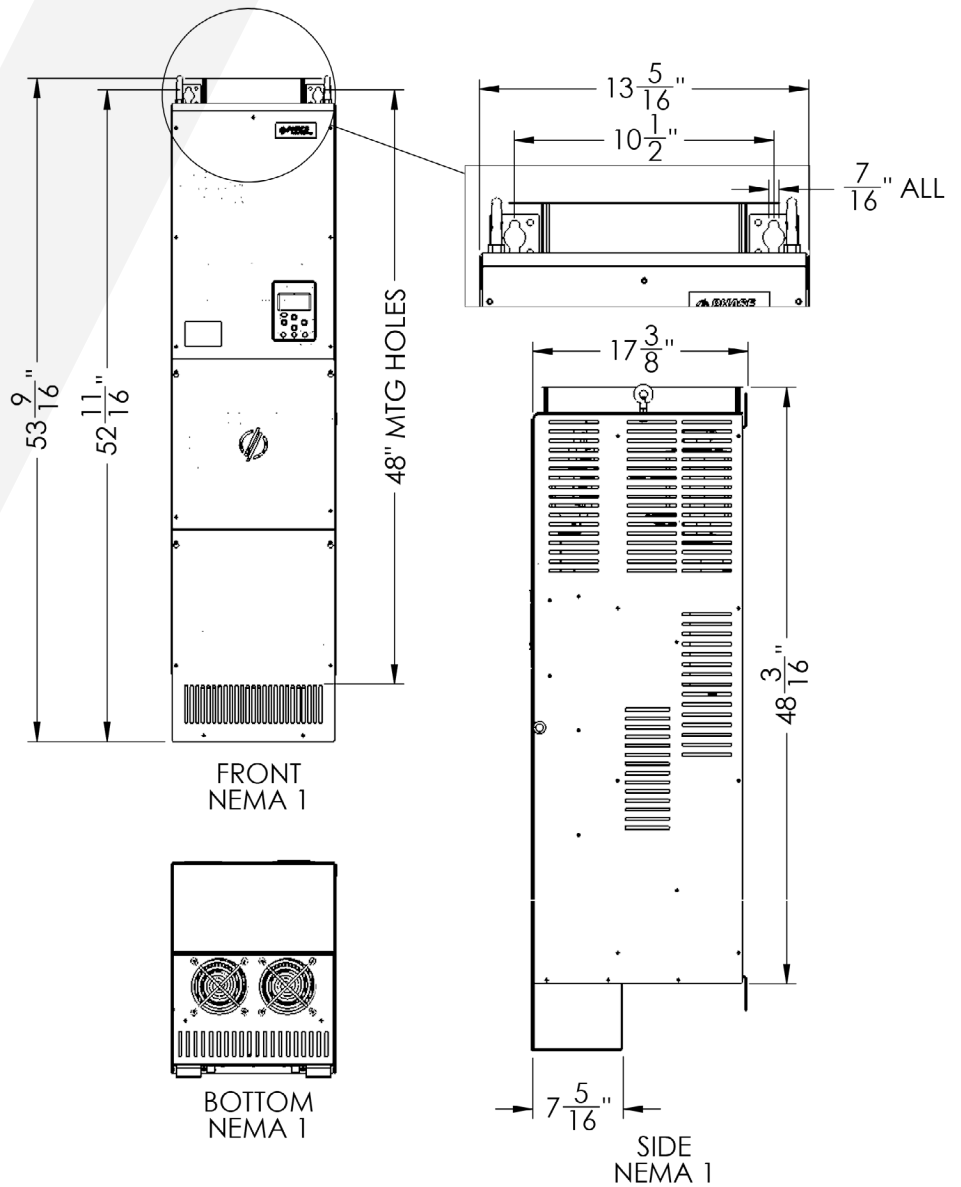
| | |
|---------|---------|
| 1LHX005 | 3LHX005 |
| 1LHX007 | 3LHX007 |
| 1LHX010 | 3LHX010 |
| 1LHX015 | 3LHX015 |
| 1LHX020 | 3LHX020 |
| 1LHX205 | 3LHX025 |
| 1LHX207 | 3LHX030 |
| 1LHX210 | 3LHX207 |
| 1LHX215 | 3LHX207 |
| 1LHX220 | 3LHX210 |
| 1LHX405 | 3LHX215 |
| 1LHX407 | 3LHX220 |
| 1LHX410 | 3LHX405 |
| 1LHX415 | 3LHX407 |
| 1LHX420 | 3LHX410 |
| 1LHX425 | 3LHX415 |
| 1LHX430 | 3LHX420 |
| | 3LHX425 |
| | 3LHX430 |
| | 3LHX440 |
| | 3LHX440 |



LHX4150

MODEL NUMBER

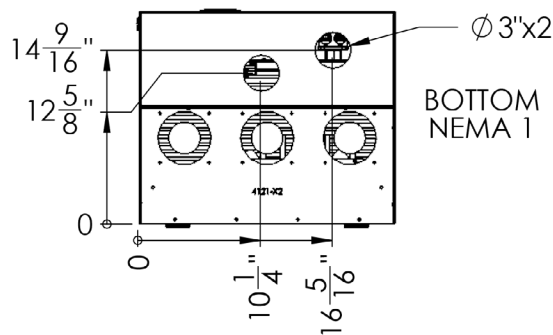
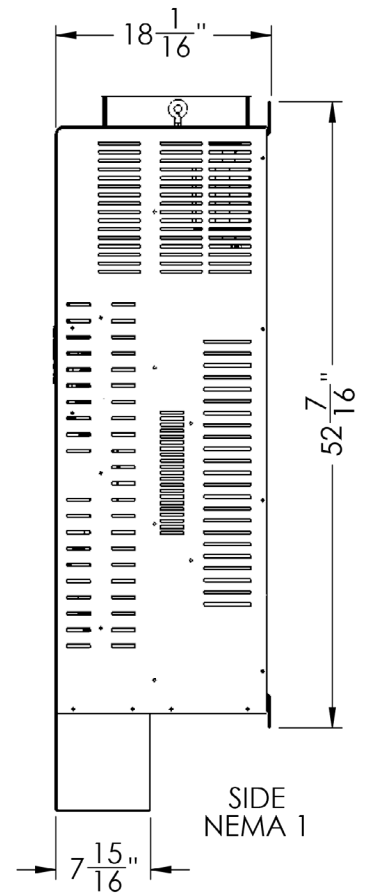
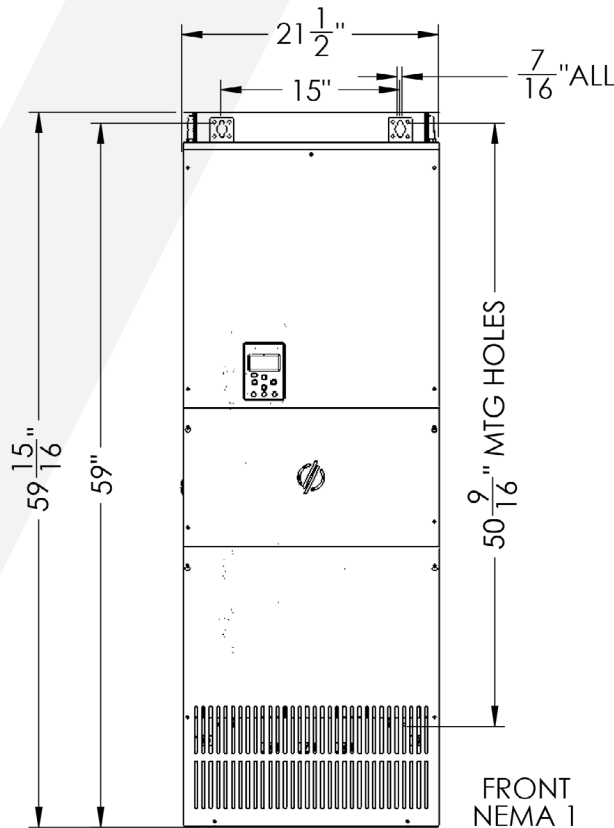
| |
|----------|
| 1LHX230 |
| 1LHX240 |
| 1LHX440 |
| 1LHX450 |
| 1LHX460 |
| 1LHX475 |
| 3LHX230 |
| 3LHX240 |
| 3LHX250 |
| 3LHX460 |
| 3LHX475 |
| 3LHX4100 |
| 3LHX4125 |
| 3LHX4150 |



LHX4300

MODEL NUMBER

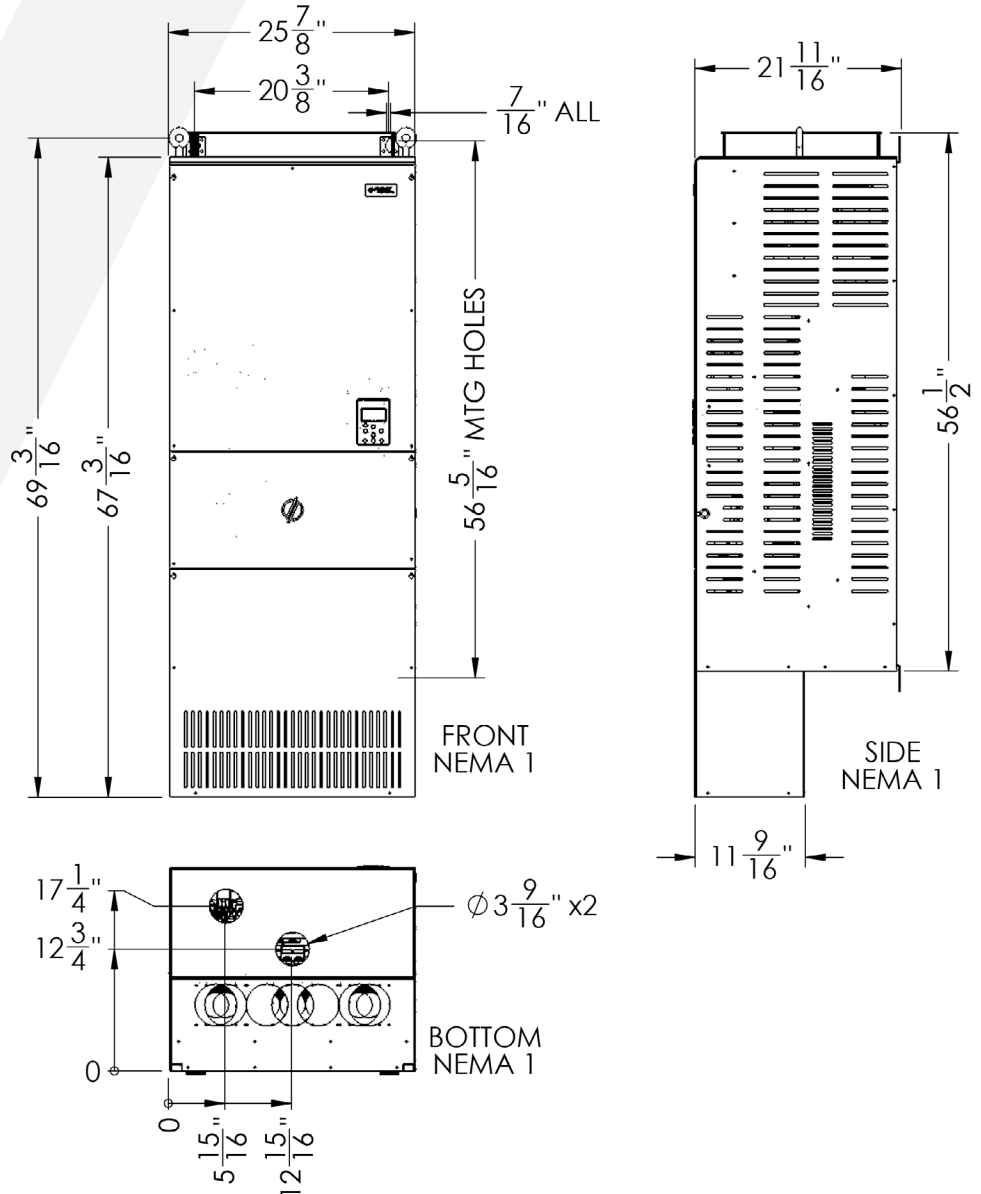
| |
|----------|
| 1LHX250 |
| 1LHX260 |
| 1LHX4100 |
| 1LHX4125 |
| 1LHX4150 |
| 3LHX260 |
| 3LHX275 |
| 3LHX2100 |
| 3LHX4200 |
| 3LHX4250 |
| 3LHX4300 |



LHX4500

MODEL NUMBER

| |
|----------|
| 1LHX4200 |
| 1LHX4250 |
| 3LHX4350 |
| 3LHX4400 |
| 3LHX4450 |
| 3LHX4500 |



INTUITIVELY ENGINEERED



**DIGITAL PHASE
CONVERTERS**

**VARIABLE
FREQUENCY
DRIVES**

**MOTOR
PROTECTION**

**STARTER
PANELS**

OUR MISSION

Relentlessly seek to provide Uncommon Value, solutions, innovation, and support for the industries that we serve.



**7-DAY
LEAD TIMES**



**MADE IN THE
USA**