

SD2 SERIES**VARIABLE
SPEED DRIVE**

SANHUA SD2 variable speed drive series are dedicated to BLDC compressor and fans.

**FEATURES**

- OPTIMIZED FOR HVAC&R APPLICATIONS SUCH AS HEAT PUMP, AIR CONDITIONING, REFRIGERATION RACKS AND CONDENSING UNITS.
- EXTENDED SPEED RANGE ALLOWING TO REDUCE THE NUMBER OF SHORT CYCLE AND PROVIDE MORE COOLING CAPACITY
- CUSTOMIZABLE HEATSINK ACCORDING TO THE CONFIGURATION OF YOUR UNITS
- REFRIGERANT COOLING AVAILABLE WITH EASY SERVICEABILITY
- THROUGH PANEL MOUNTING FOR LOWER FOOTPRINT
- COMPATIBLE WITH NUMEROUS OF HERMETIC BLDC COMPRESSOR. ALL TESTED IN OUR CERTIFIED TUV LABORATORY AT DIFFERENT CONDITIONS.
- DRIVE ALREADY SET ACCORDING TO YOUR COMPRESSOR AND YOUR APPLICATION

GENERAL SPECIFICATIONS

- Adapted for application using A3 refrigerants
- Operating temperature: -25°C to +65°C
- Storage temperature: -40°C to +85°C
- Relative humidity: ≤ 95%RH
- Safe Torque Off (STO)
- Harmonic compliant according to EMC Directive (2014/30/EU)
- Certification: UL, CE Declaration according to low voltage directive
- Compliant with pollution degree 3 environment
- Installation method: wall mounting with screws
- Works well with Sanhua DPF and LPF EEVs

ELECTRICAL SPECIFICATIONS

- Power supply:
 - 1Ph, 230VAC ±20%, 50/60Hz
 - 3Ph, 400VAC ±20%, 50/60Hz
- Modbus RTU (RS485)
- Pluggable terminals
- Analogue Input – Speed reference
- High Pressure switch
- NTC probe



MODEL DESIGNATION

| N° | | | | | | | Model Designation Legend |
|-----|------------|-----------|----------|----------|----------|----------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| SD2 | 011 | A1 | H | 0 | X | A | SANHUA SD2 variable speed drive series |
| SD2 | 011 | A1 | H | 0 | X | A | Output Current (Amps) 011: 11A-RMS (Single Phase) 015: 15A-RMS (Single/Three Phase) 020: 20A-RMS (Single/Three Phase) 025: 25A-RMS (Three Phase) 032: 32A-RMS (Three Phase) |
| SD2 | 011 | A1 | H | 0 | X | A | Input Power Supply (VAC) A1: 1P 94-135VAC 50Hz (Under Development) A2: 1P 220-240VAC 50Hz/60HzMP B2: 3P 200-260VAC 60Hz (Under Development) B4: 3P 380-415VAC 50Hz/60HzMP C4: 3P 420-528VAC 60Hz (Under Development) C5: 3P 520-630VAC 50Hz (Under Development) |
| SD2 | 011 | A1 | H | 0 | X | A | Cooling Version A: Active Air Cooling FAN (Under Development) H: Horizontal Heat Sink Cooled Finned MP V: Vertical Heat Sink Cooled Finned MP F: Flat Plate Fluid Cooled MP |
| SD2 | 011 | A1 | H | 0 | X | A | IP CLASS / Housing 0: IP00 W/O Enclosure MP 2: IP20 Plastic Enclosure MP 5: IP54 (Under Development) |
| SD2 | 011 | A1 | H | 0 | X | A | Drive Version X: Prototype Sample or Production Pilot S: Mass Production Single Package M: Mass Production Multi Package |
| SD2 | 011 | A1 | H | 0 | X | A | Version Index: A: First Edition of each Sample or MP B: Second Edition of each Sample or MP |



ORDERING METHOD

All SD2 drives are tested in our TÜV certified laboratory. This ensures a perfect matching for your application. Contact your sales representative for the drive selection and best advice adapted to your application. SD2 are available in different cooling type (see below).

A Cooling type :

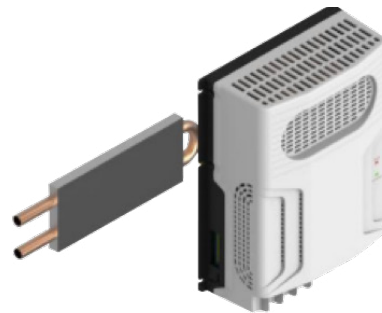
Horizontal Finned



Vertical Finned



Flat plate



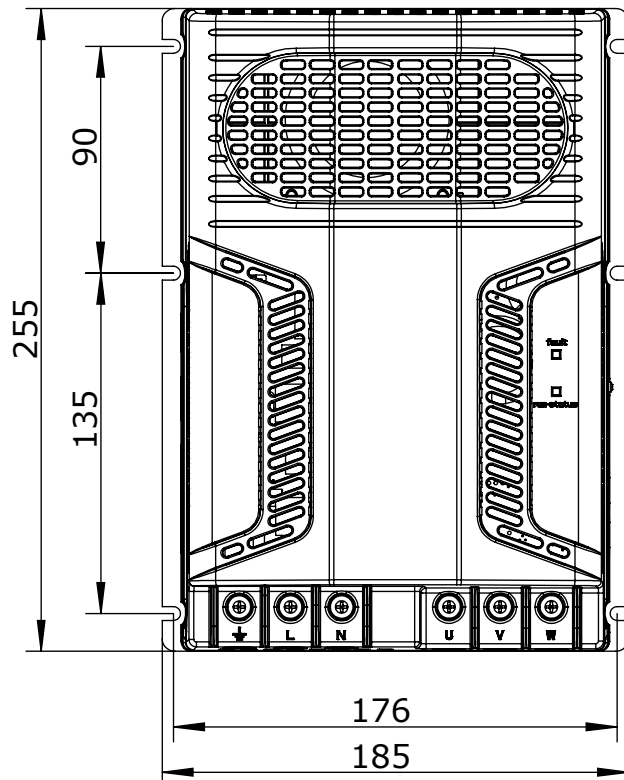
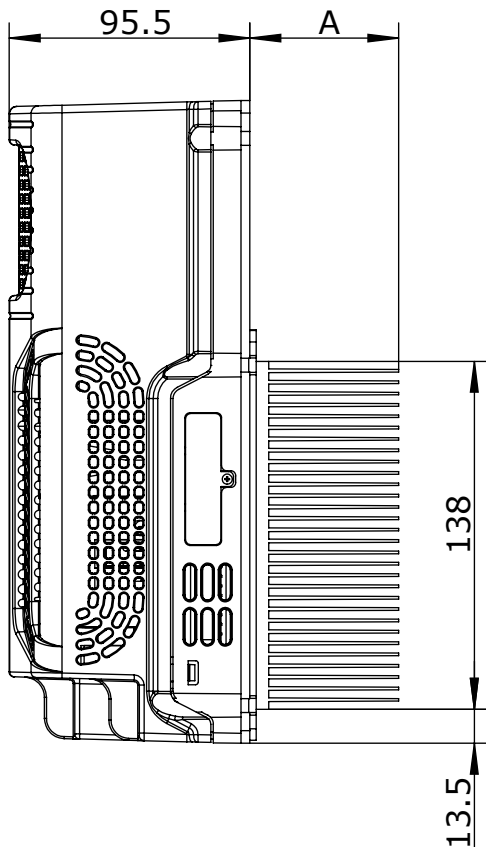
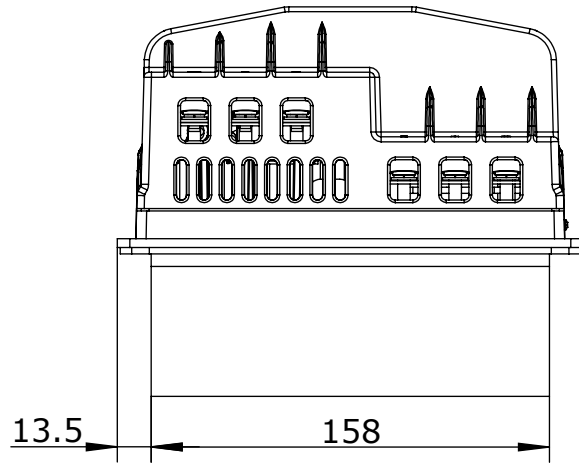
| Type | Max. output Current | Model | Cooling Type | SANHUA U11 Code | Frame size |
|--------------------------|---------------------|-----------------|-------------------|-----------------|------------|
| 1PH 2.6KW Inverter IP20 | 11 A | SD2011A2H2XA000 | Horizontal Finned | 10501030801 | 1 |
| | | SD2011A2V2XA000 | Vertical Finned | 10501031301 | 1 |
| | | SD2011A2F2XA000 | Flat Plate | 10501034301 | 1 |
| 1PH 3.8KW Inverter IP20 | 15 A | SD2015A2H2XA000 | Horizontal Finned | 10501030101 | 1 |
| | | SD2015A2V2XA000 | Vertical Finned | 10501031401 | 1 |
| | | SD2015A2F2XA000 | Flat Plate | 10501034401 | 1 |
| 1PH 5.0KW Inverter IP20 | 20 A | SD2020A2H2XA000 | Horizontal Finned | 10501030201 | 2 |
| | | SD2020A2V2XA000 | Vertical Finned | 10501031501 | 2 |
| | | SD2020A2F2XA000 | Flat Plate | 10501034101 | 2 |
| 3PH 3.8KW Inverter IP20 | 15 A | SD2015B4H2XA000 | Horizontal Finned | 10501030401 | 3 |
| | | SD2015B4V2XA000 | Vertical Finned | 10501031601 | 3 |
| | | SD2015B4F2XA000 | Flat Plate | 10501034501 | 3 |
| 3PH 5.0KW Inverter IP20 | 20 A | SD2020B4H2XA000 | Horizontal Finned | 10501030501 | 3 |
| | | SD2020B4V2XA000 | Vertical Finned | 10501031701 | 3 |
| | | SD2020B4F2XA000 | Flat Plate | 10501034601 | 3 |
| 3PH 8.0KW Inverter IP20 | 25 A | SD2025B4H2XA000 | Horizontal Finned | 10501030601 | 3 |
| | | SD2025B4V2XA000 | Vertical Finned | 10501031801 | 3 |
| | | SD2025B4F2XA000 | Flat Plate | 10501034701 | 3 |
| 3PH 11.5KW Inverter IP20 | 32 A | SD2032B4H2XA000 | Horizontal Finned | 10501033701 | 3 |
| | | SD2032B4V2XA000 | Vertical Finned | 10501033501 | 3 |
| | | SD2032B4F2XA000 | Flat Plate | 10501034201 | 3 |



DIMENSIONS

Frame size 1

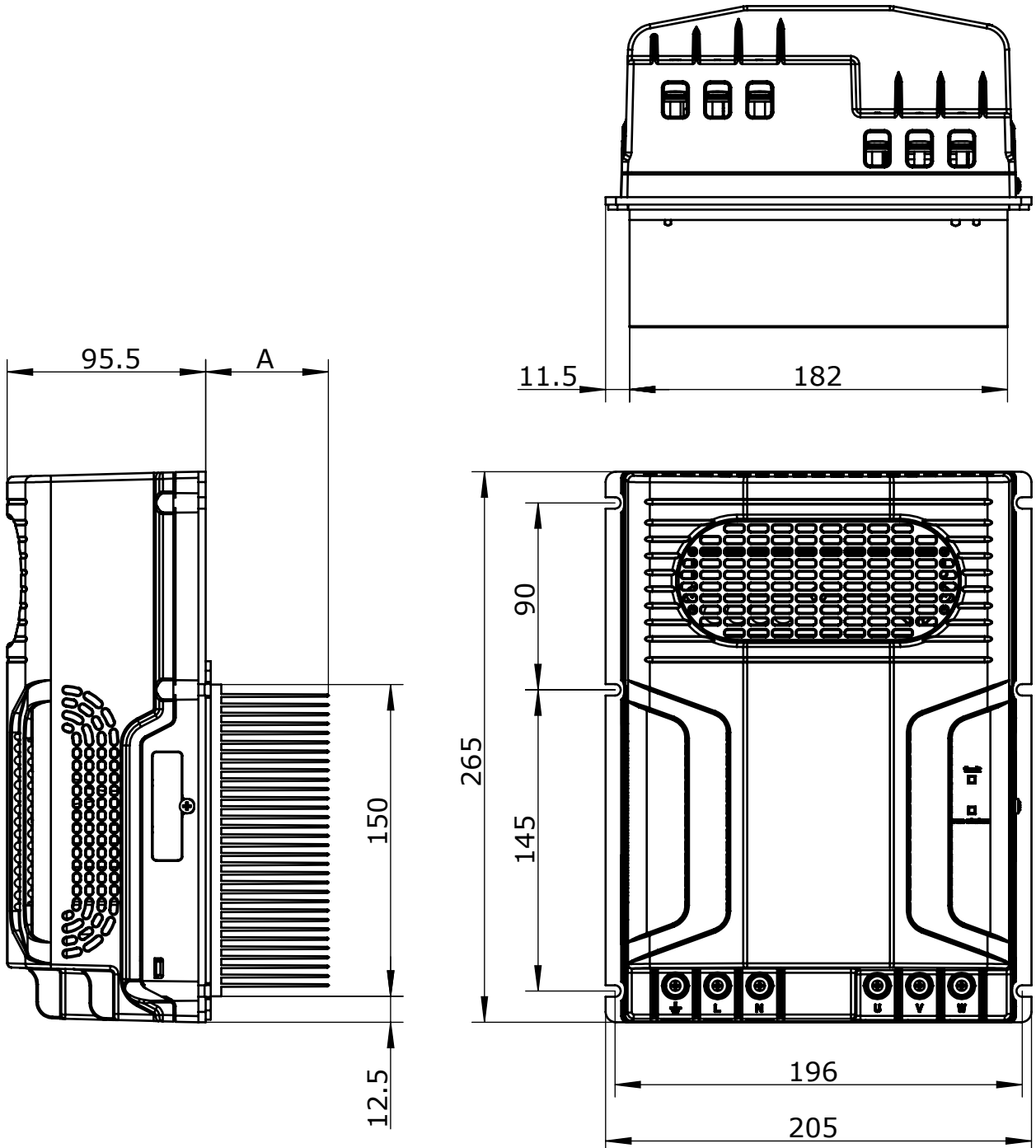
| Model | A (Length of different Cooling type) (mm) | | | Weight (kg) | | |
|----------|---|----------|------------|-------------|----------|------------|
| | Horizontal | Vertical | Flat plate | Horizontal | Vertical | Flat plate |
| SD2011A2 | 39.5 | 39.5 | 8 | 2.38 | 2.38 | 2.24 |
| SD2015A2 | 59 | 59 | 8 | 3.59 | 3.59 | 2.79 |





Frame size 2

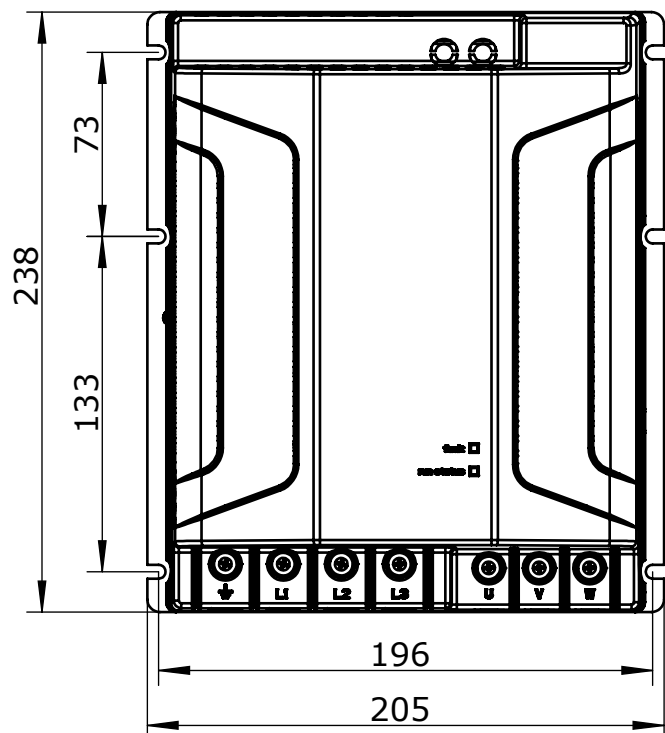
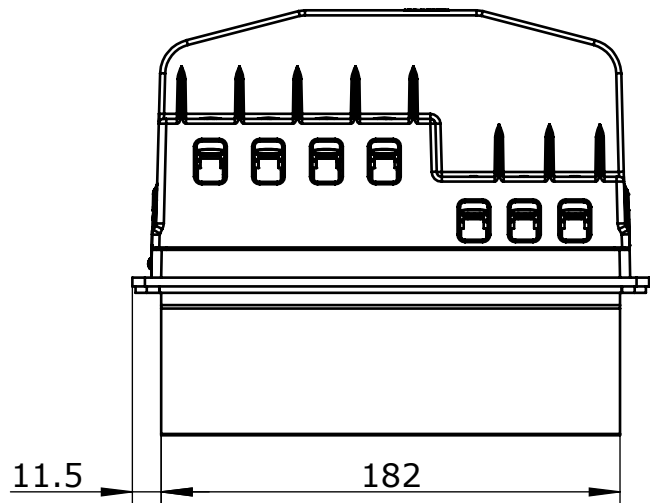
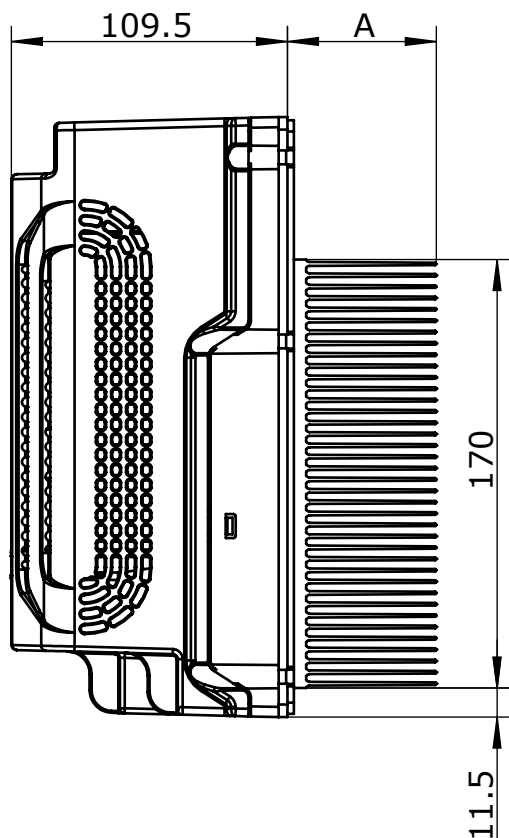
| Model | A (Length of different Cooling type) (mm) | | | Weight (kg) | | |
|----------|---|----------|------------|-------------|----------|------------|
| | Horizontal | Vertical | Flat plate | Horizontal | Vertical | Flat plate |
| SD2020A2 | 59 | 59 | 8 | 3.95 | 3.95 | 2.95 |





Frame size 3

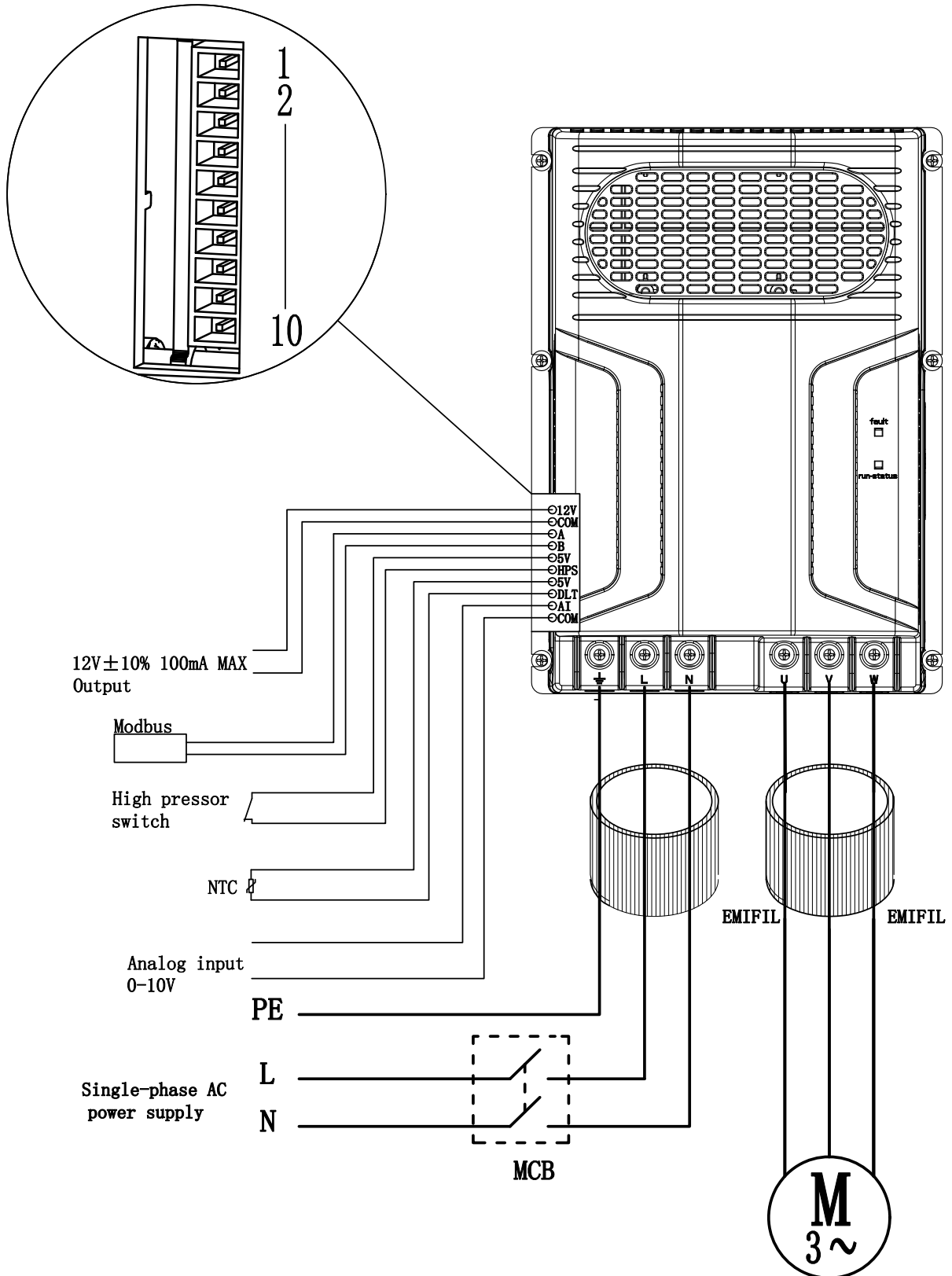
| Model | A (Length of different Cooling type) (mm) | | | Weight (kg) | | |
|----------|---|----------|------------|-------------|----------|------------|
| | Horizontal | Vertical | Flat plate | Horizontal | Vertical | Flat plate |
| SD2015B4 | 39.5 | 39.5 | 8 | 3.1 | 3.1 | 2.4 |
| SD2020B4 | 59 | 59 | 8 | 3.84 | 3.84 | 2.61 |
| SD2025B4 | 59 | 59 | 8 | 4.46 | 4.46 | 2.98 |
| SD2032B4 | 69 | 69 | 8 | 4.14 | 4.14 | 3.13 |





INSTALLATION DIAGRAM

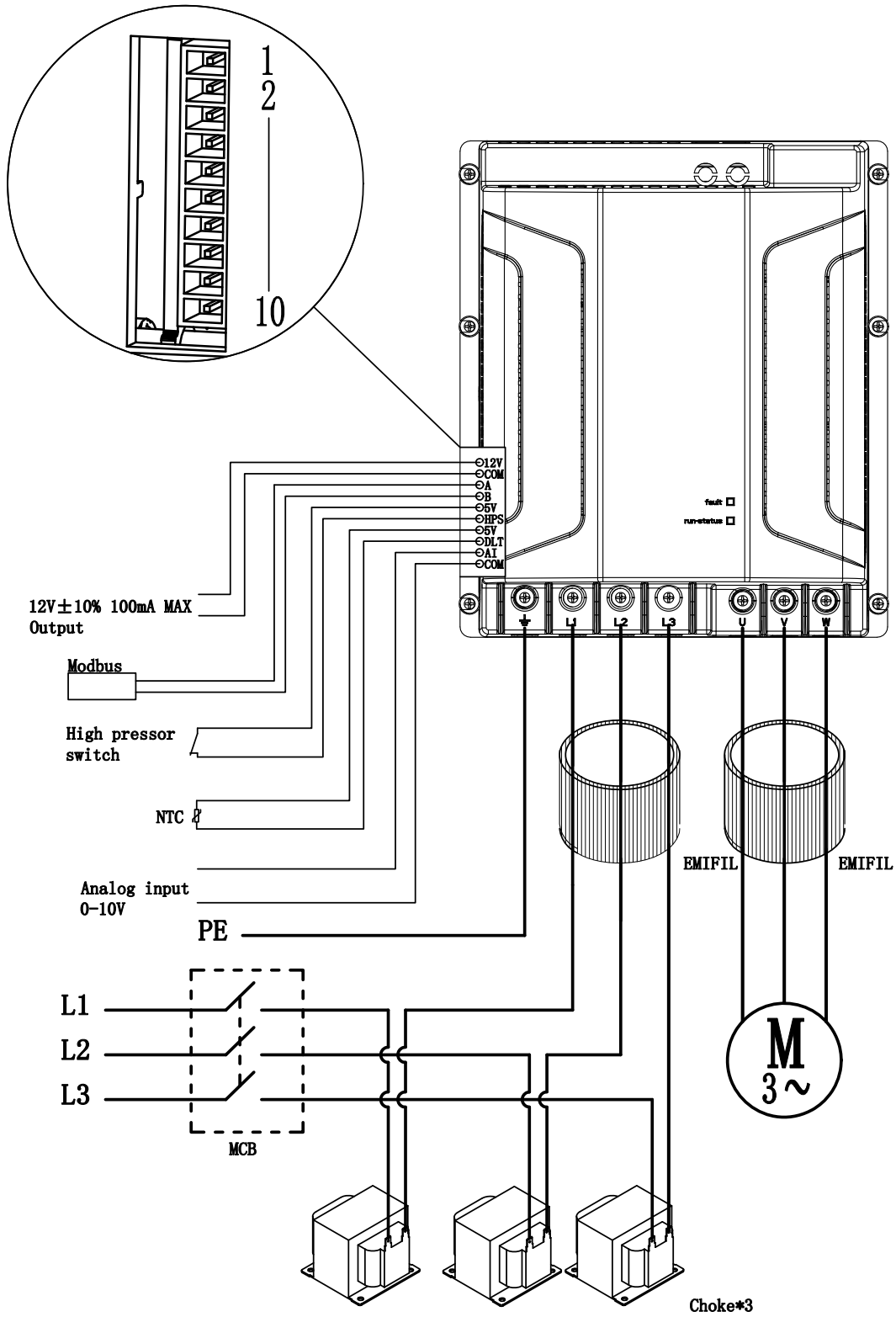
1ph - SD2011 / SD2015 / SD2020





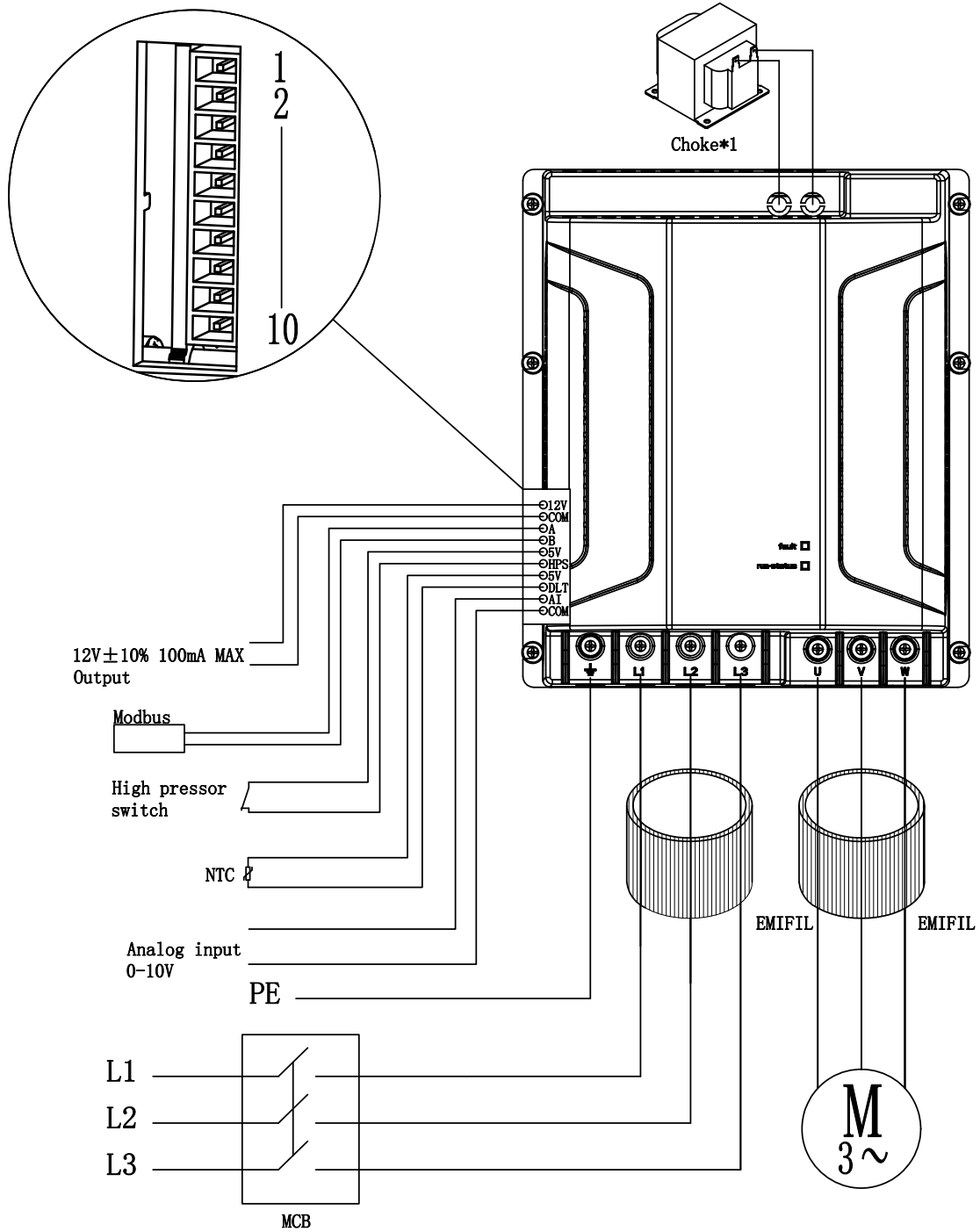
INSTALLATION DIAGRAM

3ph - SD2015 / SD2020 / SD2025





3ph - SD2032





PRESSURE SWITCHES

| Pressure type | Reference | Electrical rating | Contact | Reset | Port fitting | Electrical connector |
|---------------|-----------|-------------------|---------|-----------|---|---|
| HP | MPS2AXXX | 240V / 1-4A | NO/NC | Automatic | "1/4 SAE, 1/4 solder, 6mm solder, 1/8 NPTF Male" | Lead wires, AMP connector, Automotive connector.. |
| LP | MPS1AXXX | | | | | |

Contact your sales representative for the pressures switch selection and best advice adapted to your application.

CHOKES

Three-phase models are supplied together with chokes to be externally connected to the drives.

Chokes for single phase version are embedded in the drive.

| SD2 drive | Type | Nb. | Choke Model | SANHUA U11 Code | Dimensions [mm] | | | | | | Weight (kg) |
|-----------|------------|-----|------------------|-----------------|-------------------|----|------|-------|------|--------|-------------|
| | | | | | A | B | C | D | E | F | |
| SD2015B4 | 3PH 3.8KW | 3 | LE76-0825-XT | 10530500401 | 64 | 64 | 78 | 76,2 | 65 | 5,2 | 1,5 |
| SD2020B4 | 3PH 5.0KW | | LE105-1325-XTA | 10530500501 | 88 | 90 | 105 | 110 | 89 | 6 | 3,9 |
| SD2025B4 | 3PH 8.0KW | | LE85.8-2503B-XTA | 10530500601 | 64 | 64 | 76,2 | 78 | 73 | 4 | 2 |
| SD2032B4 | 3PH 11.5KW | 1 | R3515 | 10521007201 | 79 | 88 | 93,2 | 112,5 | 73,5 | 5,8*16 | 1,86 |

