



## Frequency Inverters

# L200 Series

### The economical choice for a broad range of tasks

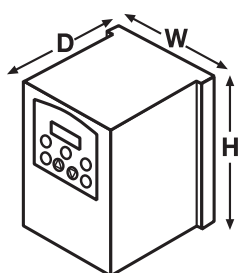
- Capacity Range: 0.2 – 4.0 kW
- Global Standards to CE, UL, c-UL, C-Tick and CSA
- Integrated RS485 Interface
- PID Control
- Automatic Voltage Regulation
- Integrated EMC-Filter
- Motor Thermistor Input
- Digital Display with Built-in Potentiometer



### All features at a glance

| Inverter L200                                    | 200V-Series  |  |  |            |            |            |             | 400V-Series   |            |            |            |            |            |  |  |
|--|--|--|--|------------|------------|------------|-------------|---|------------|------------|------------|------------|------------|--|--|
|  | 002 NFE(F)   | 004 NFE(F)   | 005 NFE(F)   | 007 NFE(F) | 011 NFE(F) | 015 NFE(F) | 022 NFE(F)  | 004 HFE(F)  | 007 HFE(F) | 015 HFE(F) | 022 HFE(F) | 030 HFE(F) | 040 HFE(F) |  |  |
| Protective structure                             | IP20   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Maximum motor size (4P) in kW                    | 0.2  | 0.4  | 0.55   | 0.75       | 1.1        | 1.5        | 2.2         | 0.4   | 0.75       | 1.5        | 2.2        | 3.0        | 4.0        |  |  |
| Input supply phase                               | Single phase / Three phase   |  |  |            |            |            |             | Three Phase   |            |            |            |            |            |  |  |
| Rated input voltage                              | 200VAC-240VAC +/-10%   |  |  |            |            |            |             | 50/60Hz +/-5%   |            |            |            |            |            |  |  |
| Rated output voltage                             | Three Phase 200 ~ 240VAC (proportional to input voltage)   |  |  |            |            |            |             | Three Phase 360 ~ 460VAC (Corresponds to input voltage) |            |            |            |            |            |  |  |
| Rated output current in A                        | 1.4  | 2.6  | 3.0  | 4.0        | 5.0        | 7.1        | 10.0        | 1.5   | 2.5        | 3.8        | 5.5        | 7.8        | 8.6        |  |  |
| Output frequency range                           | 0.5 ~ 400 Hz   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Frequency accuracy (at 25°C +/-0°C)              | Digital command: +/-0.01% of maximum frequency<br>(Analogue command: +/-0.2% of maximum frequency)   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Frequency setting resolution                     | Digital setting: 0.01 Hz Analogue setting: maximum frequency / 1000  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Voltage/frequency characteristic                 | Constant or reduced torque   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Overload current capacity                        | 150% for 60 seconds (once every 10 minutes)  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Acceleration/deceleration time                   | 0.1 ~ 3600 s in selectable linear and non-linear mode (second acceleration/deceleration usable)  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Starting torque                                  | 100% ore more (when torque boost has been set)   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Braking torque                                   | Dynamic braking, feedback to capacitor   | approx. 100%   |  |            |            |            | approx. 70% | appr. 20%   | appr.100%  | appr. 70%  | appr. 20%  |            |            |  |  |
|  | DC injection braking   | Braking is on at the minimum frequency or less (minimum frequency, braking time and braking force can be set)  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Inputs   | Frequency setting  | Digital operator   | Settings using keys $\odot$ $\ominus$ or potentiometer   |            |            |            |             |   |            |            |            |            |            |  |  |
|  | Forward / Reverse run (Start/Stop)   | External signals   | 0-10VDC (input impedance 10k Ohm) 4-20mA (input impedance 250 Ohm) Potentiometer 1k-2k Ohm, 1W |            |            |            |             |   |            |            |            |            |            |  |  |
|  |  | Digital operator   | Via keys RUN (for start) and STOP/RESET (for stop) (Default setting: forward run)              |            |            |            |             |   |            |            |            |            |            |  |  |
| Intelligent input terminals programmable as, ie. | Intelligent input terminals configurable as FW and RV  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Outputs  | Intelligent output terminals programmable as, ie.  | FW: Forward run start/stop RV: Reverse run start/stop CF1-CF4: Multistage speed JG: Jogging command AT: Analogue current input selection 2CH: 2nd Accel./decel. time FRS: Free run stop EXT: External trip USP: USP function RS: Reset SFT: Software lock PTC: Thermal protection FA1/FA2: Frequency arrival signal RUN: Motor running signal OL: Overload signal OD: Deviation signal at PID control AL: Alarm signal |  |            |            |            |             |   |            |            |            |            |            |  |  |
|  | Frequency and current monitoring   | 0-10VDC, 8bit  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Fault alarm contact                              | On when the inverter trips (1c contact)  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Other functions                                  | Automatic voltage regulation, retry; Analogue gain/bias adjustment, frequency jump, upper/lower limiter, output frequency display, trip history monitoring, carrier frequency setting, PID control, automatic torque boost and many more |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Protection functions                             | Overcurrent, overvoltage, undervoltage, electronic thermal, temperature abnormality, ground fault upon starting, overload limit  |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Environmental                                    | Ambient temperature  | -10 ~ 50°C; > 40°C Current derating  |  |            |            |            |             |   |            |            |            |            |            |  |  |
|  | Storage temperature and humidity   | -25 ~65°C<br>20 ~ 90% RH (no dew condensation)   |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Options  | Remote operator, copy unit, cable for digital operator, reactor for improving power factor, noise filter, ProDrive Software)   |  |  |            |            |            |             |   |            |            |            |            |            |  |  |
| Overall weight (approx.) in kg                   | 0.85   | 1.3  |  | 2.2        |            | 2.8        |             | 1.3   |            | 1.7        |            | 2.8        |            |  |  |

### L200 Series Dimensions



| Type L200 | 002 NFEF | 004 NFEF<br>005 NFEF | 007 NFEF<br>011 NFEF | 015 HFEF<br>022 HFEF | 004 HFEF | 007 HFEF<br>015 HFEF<br>022 HFEF<br>030 HFEF<br>040 HFEF |
|-----------|----------|----------------------|----------------------|----------------------|----------|--|
| Width mm  | 80       | 80                   | 110                  | 140                  | 110      | 110  |
| Height mm | 140      | 140                  | 155                  | 180                  | 155      | 155  |
| Depth mm  | 93       | 107                  | 156                  | 171                  | 129      | 156  |

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