

Braking Unit/Brake chopper

Descriptions

Ordinary type LN/GN series braking units have been specially designed to make use of modern IGBT power transistors to switch the braking resistor when the brake voltage-threshold is reached during the power braking process of frequency inverters, UPS, etc.

The connection to the inverter is very simple. Two cables to the DC link are required. An external control voltage is not required.



Functions

| Functions | LN Series | GN Series |
|---|-----------|-----------|
| Voltage range | 200-400V | 200-1100V |
| Continuous braking times | 0,5-50s | 0,5-120s |
| Easy mounting, also for retrofitting into existing plants | √ | √ |
| Wear-resistant and maintenance-free | √ | √ |
| Continuous braking times | √ | √ |
| Connection of external brake contactor possible | √ | √ |
| DC braking with on-way rectification | × | √ |
| Controlled by microcontroller with a keyboard | - | √ |
| Suitable for all asynchronous motors | × | √ |
| Temperature monitoring of heat sink | × | √ |
| Potential-free signalling and control outputs | × | √ |

Technical Standards: EN 60146-1-1, EN 61800-2, EN 50178

Environmental conditions

| | |
|-----------------------|---|
| Operating temperature | Ambient : -25°C to +45°C |
| Relative humidity | 5% to 85% |
| Other demands | The cooling fan must have little dust and be non corrosive. |

Applications

■ Cranes, hoists, chain hoists



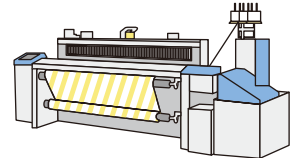
■ Elevator



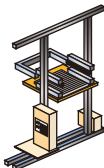
■ Vertical lifts



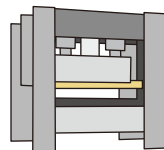
■ Textile machinery



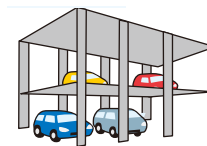
■ Stacking Crane in Automatic Warehouse



■ Metal machinery- punching machine



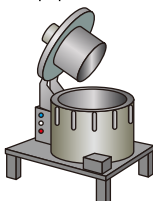
■ Stereoscopic Parking Lot



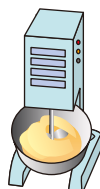
■ Industrial manipulator



■ Chemical equipment- Centrifugal machine



■ Food processing machinery-Mixers



Features

| Main Characteristics | LN Series 220V | LN Series 400V | GN Series |
|--|----------------------------|----------------------------|--|
| Inverter Power Rating (Pr) | 7.5Kw to 90Kw | 7.5Kw to 132Kw | 37Kw to 450Kw |
| Maximum braking current(I) | 50A to 200A | 40A to 200A | 75A to 450A |
| Repetitive braking power(Pm) | Based on Pr and ED/duty(%) | Based on Pr and ED/duty(%) | Based on Pr and ED/duty(%) |
| Feasible minimum resistance value(R) | See“Technical table” | See“Technical table” | See “Technical table” |
| Cycle time (up to 600s on request) | 120s standard | 120s standard | 120s standard |
| ED / Cycle duty (higher than 40% on request) | up to 20% | Up to 20% | up to 40% |
| Mains system voltage(U) @50/60Hz | 220/240V±10% | 380/415V±10% | 380/415V±10% 480/500V±10% 660/690V±10% |
| Default chopper voltage (Adjustable) | DC320V±5V | DC660V±5V | DC660V±5V / DC830V±5V / DC1150V±5V |
| Dielectric voltage | 3,000VAC@1min | 3,000VAC@1min | 3,000VAC@1min |
| Insulation resistance | >20MΩ / body | >20MΩ / body | >20MΩ / body |

| Design features | LN Series 220V | LN Series 400V | GN Series |
|----------------------|-------------------------------|-------------------------------|-------------------------------|
| Enclosure material | Painted steel | Painted steel | Painted steel |
| Degree of protection | IP00/ IP20(EN 60529) | IP00/ IP20(EN 60529) | IP00/ IP20(EN 60529) |
| Terminal connections | wires, terminals, copper bars | wires, terminals, copper bars | wires, terminals, copper bars |
| Ventilation | Natural | Natural | Fan cooling internal |
| Mounting | On the wall or inside panel | On the wall or inside panel | On the wall or inside panel |
| Installation | Indoor standards | Indoor standards | Indoor standards |

Mechanical data

All dimensions in mm; 1 inch = 25,4 mm

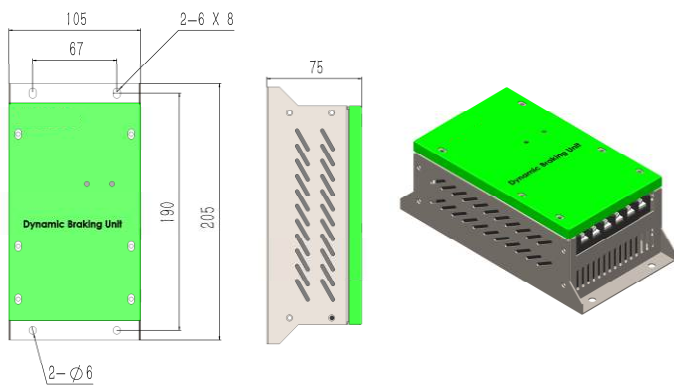


Fig. 1

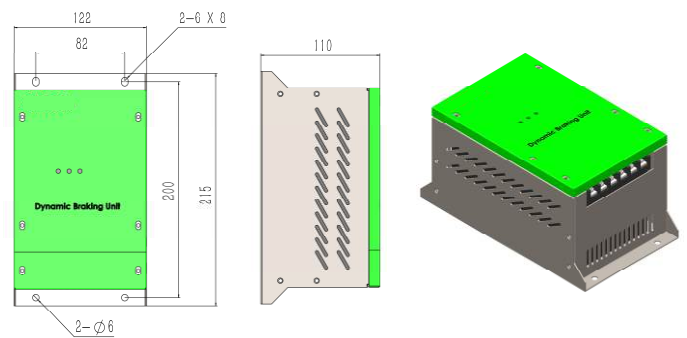


Fig. 2

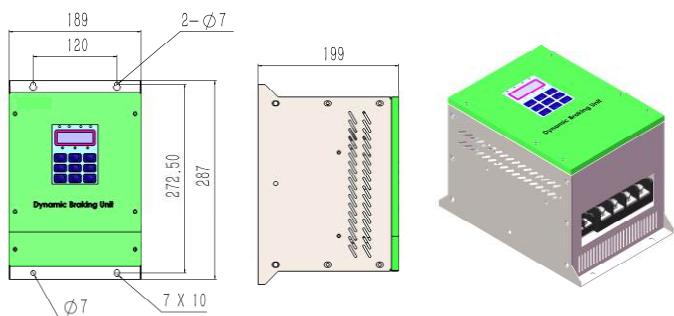


Fig. 3

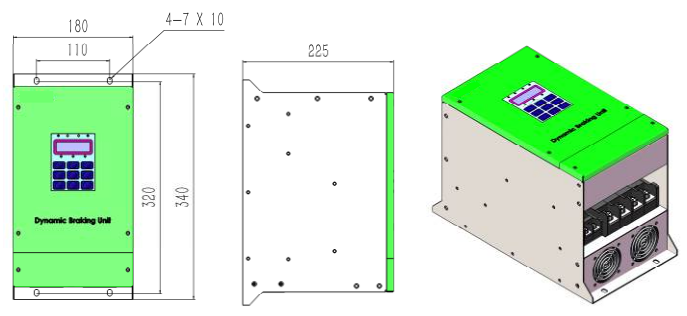


Fig. 4

Mechanical data

All dimensions in mm; 1 inch = 25,4 mm

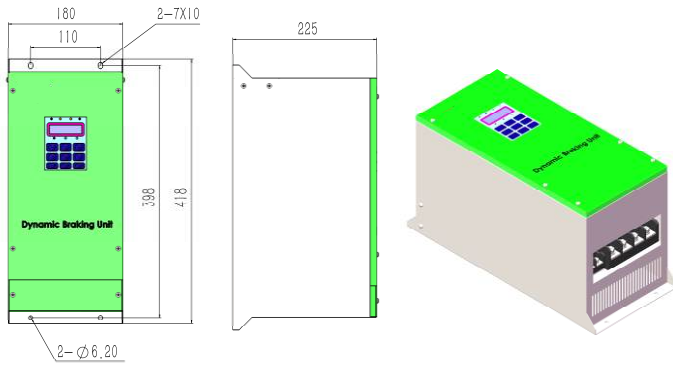


Fig. 5

Technical Data

| 型号 Type | 容量 Inverter power | 电压等级 Voltage Grade | 峰值电流 Peak current | 最小电阻值 Min Resistance Value (Ω) | 斩波电压 预设值 Default chopper voltage | 制动力矩 Braking torque | 图号 Dimension Pic. | 端子 Terminal | 配线 Cable (mm ²) | 重量 Weight (kg) |
|-------------|----------------------|-----------------------|----------------------|-----------------------------------|--|------------------------|----------------------|----------------|--------------------------------|-------------------|
| VKS-LN-2022 | 7.5-22kw | 220V | 50A | 8 | DC320V±5V (300-380V Adjustable) | 100% | Fig.1 | M4 | 6-8 | 1.5 |
| VKS-LN-2037 | 30-37kw | | 75A | 5.5 | | 100% | Fig.2 | M4 | 6-8 | 2.5 |
| VKS-LN-2045 | 45kw | | 100A | 4 | | 100% | Fig.3 | M5 | 10-16 | 5.2 |
| VKS-LN-2075 | 55-75kw | | 150A | 3 | | 100% | Fig.4 | M8 | 10-16 | 8.5 |
| VKS-LN-2090 | 90kw | | 200A | 2 | | 100% | | M8 | 25-35 | 8.5 |
| VKS-LN-4022 | 7.5-22kw | 400V | 40A | 20 | DC660V±5V (600-760V Adjustable) | 120% | Fig.1 | M4 | 4-6 | 1.5 |
| VKS-LN-4030 | 30kw | | 50A | 17 | | 120% | | M4 | 6-8 | 1.5 |
| VKS-LN-4055 | 45-55kw | | 75A | 12 | | 120% | Fig.2 | M4 | 6-8 | 2.5 |
| VKS-LN-4075 | 75kw | | 100A | 7.5 | | 120% | | M4 | 10-16 | 2.5 |
| VKS-LN-4110 | 90-110kw | | 150A | 6 | | 120% | Fig.3 | M5 | 10-16 | 5.2 |
| VKS-LN-4132 | 132kw | 200A | 3.8 | 120% | M8 | 25-35 | | 5.2 | | |
| VKS-GN-4110 | 55-110kw | 400V | 150A | 5 | DC660V±5V (600-760V Adjustable) | 150% | Fig.4 | M8 | 10-16 | 8.5 |
| VKS-GN-4200 | 132-200kw | | 200A | 4 | | 150% | | | 25-35 | 8.5 |
| VKS-GN-4280 | 220-280kw | | 300A | 2.5 | | 150% | | | 25-35 | 8.5 |
| VKS-GN-4400 | 315-400kw | | 400A | 1.6 | | 150% | | | 50-70 | 8.5 |
| VKS-GN-5037 | 7.5-37kw | 500V | 75A | 12.5 | DC830V±5V (760-900V Adjustable) | 150% | Fig.5 | M10 | 6-8 | 11 |
| VKS-GN-5110 | 45-110kw | | 150A | 6.5 | | 150% | | | 10-16 | 11 |
| VKS-GN-5200 | 132-200kw | | 200A | 5 | | 150% | | | 10-16 | 11 |
| VKS-GN-5280 | 220-280kw | | 300A | 3.5 | | 150% | | | 25-35 | 11 |
| VKS-GN-5450 | 315-450kw | | 450A | 2.5 | | 150% | | | 50-70 | 11 |
| VKS-GN-6037 | 11-37kw | 660V | 100A | 12 | DC1080V±5V (990-1155V Adjustable) | 150% | Fig.5 | M10 | 6-8 | 11 |
| VKS-GN-6110 | 55-110kw | | 150A | 8.5 | | 150% | | | 10-16 | 11 |
| VKS-GN-6200 | 132-200kw | | 200A | 6.5 | | 150% | | | 10-16 | 11 |
| VKS-GN-6280 | 220-280kw | | 300A | 4.5 | | 150% | | | 25-35 | 11 |
| VKS-GN-6400 | 315-400kw | | 400A | 3.2 | | 150% | | | 50-70 | 11 |
| VKS-GN-6450 | 420-450kw | | 450A | 2.8 | | 150% | | | 50-70 | 11 |

NOTE:

- Other optional nominal power or ED(% duty cycle), on demand.
- Other mains system voltage, on demand.
- Other higher IP class or enclosure design, on demand.
- For more technical details, please contact our sales representatives.

Model Rules:

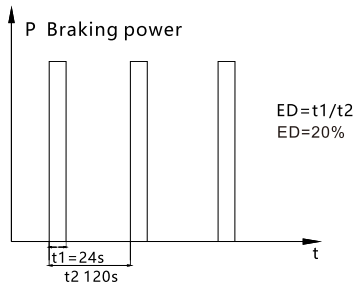
VKS - □ □ - □ □ □ □

- Power (022 for 22KW, ... 450 for 450KW)
- Voltage grade(4 for 400V, 5 for 500V, 6 for 660V)
- Series name
- Brand name

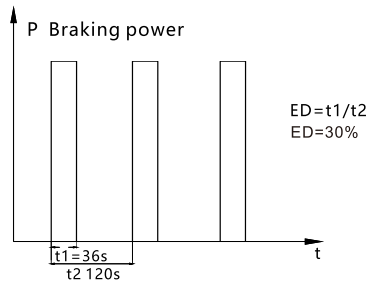
■ **Warning:** Units must never be mounted with the terminal area or base uppermost.

Efficiency of duty (ED)

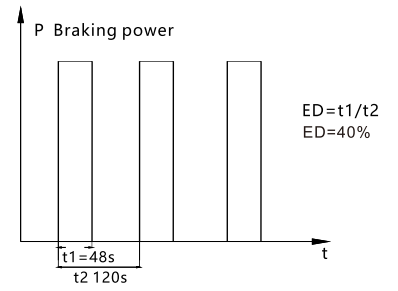
Circle time=120S



Picture A



Picture B



Picture C