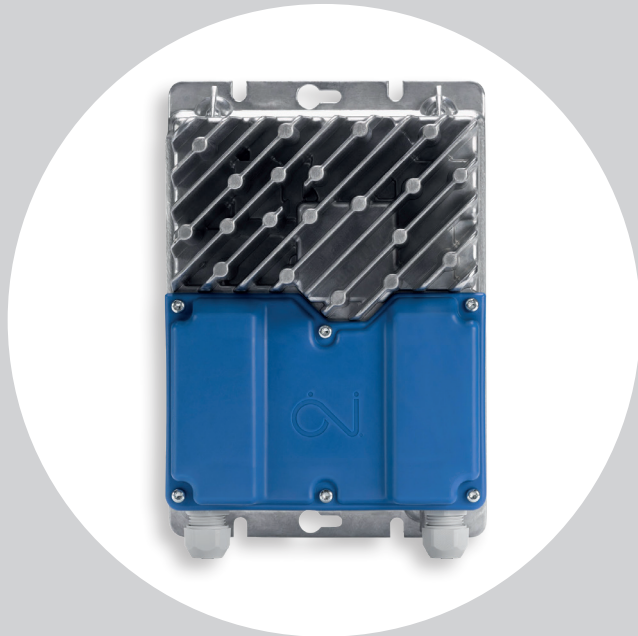


# OJ Drives®



## OJ-DV series

- 13 power variants
- 5 enclosure sizes
- IM, PM and BLDC motors
- Operation from -40° to +50°
- Energy efficient
- User-friendly connection

**A series of drives dedicated for ventilation systems comprising 13 output variants (from 0.5 to 15 kW) fitted in four different enclosures to match any rooftop fan, plug fan or AHU application.**

### Wide ambient temperature range

Continuous operation in almost any environment from -40° to +50°. In Fire Mode, OJ Drives can run for an hour in temperatures up to +70°C.

### Flexible design

By adding different modules, OJ Drives are suitable for any fan system. With their installation flexibility, they can be mounted inside or outside the air flow.

### Energy efficient

Passive cooling allows the drives to save energy while providing reliable, highly efficient power for the ventilation system. With OJ Drives, an efficiency of up to 97% can be achieved.

### Plug & Play technology

Preprogrammed motor settings help maximize functionality, while the removable front cover facilitates easy access to connectors for instant system configuration.

### Norms and standards

The OJ-DV series comes with a fully integrated EMC filter and therefore meets norms for emissions and immunity in industrial and residential areas EN 61800-3 (C1 and C2). IE requirements can be easily fulfilled using an IM or PM motor together with an OJ-DV.

The OJ DV product series is cULus Recognised according to UL 508C.



Intelligent Control  
Maximum comfort with  
low energy consumption



|   | Type   | DV-1005  | DV-1007 | DV-1011 | DV-1013            | DV-3015 | DV-3024   | DV-3030 | DV-3040 | DV-3055            | DV-3065   | DV-3075   | DV-3110            | DV-3150   |  |
|---|--------|--|---------|---------|--------------------|---------|---|---------|---------|--------------------|-----------|-----------|--------------------|-----------|--|
| Enclosure   |        | H1   |         |         |                    | H1x     |   |         | H3      |                    |           | H4        |                    | H5        |  |
| Power size  | kW     | 0.5  | 0.75    | 1.1     | 1.3                | 1.5     | 2.4   | 3.0     | 4.0     | 5.5                | 6.5       | 7.5       | 11                 | 15        |  |
| Horsepower  | Hp     | 0.7  | 1.0     | 1.5     | 1.7                | 2.0     | 3.2   | 4.0     | 5.4     | 7.4                | 8.7       | 10.0      | 14.7               | 20.1      |  |
| Efficiency  | %      | > 94%  |         |         |                    | > 96.5% |   |         | > 96.5% |                    |           | > 97.5%   |                    |           |  |
| <b>Power supply</b>   |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Voltage   | VAC    | 1 x 230 VAC 50/60 Hz +/-10%  |         |         |                    |         | 3 x 208 - 240 VAC 50/60 Hz +/-10% *1<br>3 x 380 - 480 VAC 50/60 Hz +/-10% |         |         |                    |           |           |                    |           |  |
| Supply current at max. load at nominal supply voltage (400V/480V)   | A      | 3.0  | 4.4     | 6.5     | 8.5                | 3.1/2.6 | 5.0/4.2   | 6.3/5.2 | 8.4/7.0 | 11.5/9.6           | 13.6/11.3 | 15.7/13.1 | 23/19.1            | 31.1/26.1 |  |
| Power factor (cos-phi) at max. load   |        | > 0.99 (Active PFC)  |         |         |                    |         | > 0.9   |         |         |                    |           |           |                    |           |  |
| <b>Motor output</b>   |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Nominal motor power (on shaft) *2   | kW     | 0.5  | 0.8     | 1.15    | 1.3                | 1.5     | 2.4   | 3.0     | 4.0     | 5.5                | 6.5       | 7.5       | 11                 | 15        |  |
| Frequency   | Hz     | AC motor: 0-120   PM motor: 0-400  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Max. output voltage   | Vrms   | 3 x 0 - 250 VAC  |         |         |                    |         | 3 x 0 - 0.9 x Vin   |         |         |                    |           |           |                    |           |  |
| Max. output current   | Arms   | 2  | 3.2     | 4.5     | 5.2                | 4.5     | 6.4   | 7.8     | 10.0    | 12.0               | 15.0      | 19.0      | 27                 | 35.0 *3   |  |
| <b>Protection</b>   |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Max. fuse   | A      | 16   |         |         |                    |         |   |         |         |                    |           | 32        |                    |           |  |
| Short circuit capacity  | A      | 1000   | 1000    | 2000    | 2000               | 2000    | 3500  | 3500    | 3500    | 3500               | 5000      | 5000      | 5000               | 5000      |  |
| FLA   | A      | 3.6  | 5.3     | 7.8     | 9.2                | 3.3     | 5.2   | 6.6     | 8.7     | 12.0               | 14.2      | 16.4      | 23.8               | 32.5      |  |
| Motor output  |        | Short-circuit protected between phases   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Motor   |        | Protected by current limit   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Over-voltage protection   |        | Yes, 400 V (PTC)   |         |         |                    |         | Yes, 565 V  |         |         |                    |           |           |                    |           |  |
| Overload protection   |        | Current and temperature overload protection  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| <b>Environment</b>  |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Operating temperature   | °C     | -40°C to +50°C   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Starting temperature  | °C     | -40°C to +50°C   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Storage temperature   | °C     | -40°C to +70°C   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Dimensions  | mm     | 185 x 230,5 x 90 mm  |         |         | 185 x 265 x 125 mm |         | 185 x 265 x 100 mm  |         |         | 220 x 294 x 107 mm |           |           | 244 x 399 x 144 mm |           |  |
| Protection rating   |        | IP 54 & 65/Type 4x (indoor use only)   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Enclosure material  |        | Aluminium  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Front cover   |        | Plastic  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Weight  | kg     | 2.0  |         |         | 3.6                |         | 3.0   |         |         | 3.9                |           |           | 9.5                |           |  |
| Humidity  | % rh   | 10-95% rh, non-condensing  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Surface   |        | Corrosion resistant to EN/ISO 12944-2:1998 Category C4   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Air flow / cooling  |        | Turbulent air speed of min. 3 m/s to achieve max. output power at max. ambient temperature. Turbulent air speed below 3m/s and higher ambient temperature might lead to reduced output power. (3m/s turbulent air speed is equivalent to 6,5m/s laminar air speed) |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| <b>Interfaces</b>   |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital communication   |        | MODBUS RTU RS485 (baud rate: 9.6, 19.2, 38.4, 56.7 115.2 Kbaud)  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital communication   | Slave  | 2 x RJ12 & 2 x spring terminals  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital communication   | Master | 1 x RJ12 connection  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Analogue In1  |        | 0-10 VDC, 100% @ 9.5 V DC +/-2%  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Analogue Out1   |        | +10 VDC  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital In1   |        | Start/stop with internal pull-up   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital In2   |        | Alarm reset  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Digital Out1  |        | Tacho: 1 pulse/revolution   Alarm/running signal   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Green LED   |        | Lit: Power connected   Flashing: Active communication  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Red LED   |        | Flashing: Alarm but still running   Constantly lit: Critical alarm - stop motor  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| <b>Features</b>   |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Technology  |        | Sinusoidal back-EMF signal controlled via FOC (Field Oriented Control)   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Flying start  |        | Yes, < 30% of max. speed   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Ramp-up time  | sec.   | 15-300   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Ramp-down time  | sec.   | 15-300   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Alarm   |        | Yes  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Alarm reset   |        | Via digital input, MODBUS or powering down for more than 60 seconds  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Fan stop  | sec.   | The braking system stops the fan as quickly as possible. Braking time will depend on the inertia of the fan.   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Service data log  |        | Operating hours, alarms, loads, software version, max. temp., max. motor voltage, max. motor current, max. ripple voltage, max. ripple current   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Software updating   |        | Yes, via serial interface  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Motor parameters  |        | Preprogrammed by OJ or on-site configuration   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Fire mode   |        | Nominal power for 1 hour at 70°C ambient temperature   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Field weakening   |        | Yes  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Short-circuit protection  |        | Yes  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Integrated EMC filters  |        | Yes  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| <b>Approvals</b>  |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| EMC   |        | EN 61800-3 (C1 & C2)   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| LVD   |        | EN 61800-5-1 / UL 508C   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Product standard  |        | EN 61800 Part 2  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| RoHS Directive  |        | Yes  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Product approvals   |        | CE   |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| Note: Data are valid at: nominal supply voltage, +25°C and sufficient air flow  |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |
| * 1: At 3 x 230V supply the output power is derated to 58% / * 2: Motor Power Factor = 0.8 and efficiency = 90% / * 3: H5 OGF variant is limited to 32A |        |  |         |         |                    |         |   |         |         |                    |           |           |                    |           |  |