AutomatikCentret

Strandvejen 42 ⬧ Saksild ⬧ 8300 Odder
86 62 63 64 ⬧ www.automatikcentret.dk
info@automatikcentret.dk
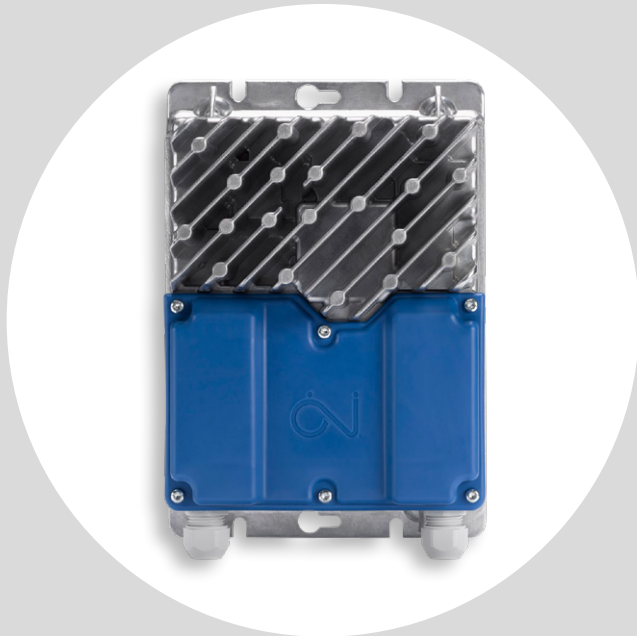
OJ ELECTRONICS
KNOW-HOW CREATES

OJ Drives®

OJ DV series

- 13 power variants
- 5 enclosure sizes
- IM, PM and BLDC motors
- Operation from -40° to +50°
- BACnet MS/TP
- UL 61800-5-1, CS22.2.174 recognized

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°C to +50°C / -40°F to +122°F. In Fire Mode, OJ DV can run for an hour in temperatures up to +70°C / +158°F.

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

BACnet MS/TP
BACnet ensures that information is exchanged in a standardised way between sensors, actuators, and controls in a building. Equipped with BACnet MS/TP the OJ DV can now be part of the building automization. BACnet MS/TP is running on RS-485.

Energy efficient
Passive cooling allows the drives to save energy while providing reliable, highly efficient power for the ventilation system. With OJ DV, 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 emis-sions 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 61800-5-1 and CS22.2.174.
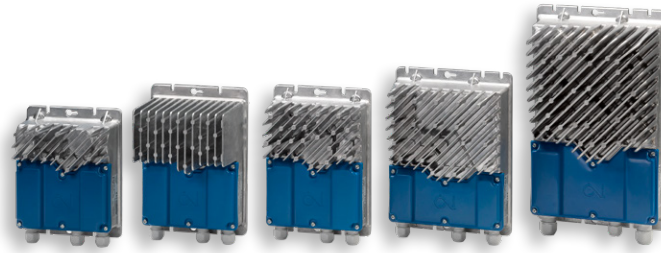
	Type	DV-1005	DV-1007	DV-1011	DV-1013	DV-3015	DV-3024	DV-3030	DV-3040	DV-3055	DV-3065	DV-3075	DV-3110	DV-3150
Enclosure		H1			H1x	H3			H4				H5	
Power size	kW	0.5	0.75	1.1	1.3	1.5	2.4	3.0	4.0	5.5	6.5	7.5	11	15
Horsepower	Hp	0.7	1.0	1.5	1.7	2.0	3.2	4.0	5.4	7.4	8.7	10.0	14.7	20.1
Efficiency	%	> 94%				> 96.5%			> 96.5%				> 97.5%	
Power supply														
Voltage	VAC	1 x 230 VAC 50/60 Hz +/-10%				3 x 208 - 240 VAC 50/60 Hz +/-10% *1 3 x 380 - 480 VAC 50/60 Hz +/-10%								
Supply current at max. load at nominel 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								
Motor output														
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
Protection														
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												
Environment														
Operating temperature	°C/°F	-40°C to +50°C / -40°F to +122°F												
Starting temperature	°C/°F	-40°C to +50°C / -40°F to +122°F												
Storage temperature	°C/°F	-40°C to +70°C / -40°F to +158°F												
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 / NEMA 4x												
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)												
Interfaces														
Modbus RTU		RS485 (baud rate: 9.6, 19.2, 38.4, 57,6 115.2 Kbaud)												
BACnet MS/TP		Baud rate: 9600, 19200, 38400, 57600, 115200 kbs MAC: 0 - 127, MAX Master: 1 - 127, Device object ID: 0 - 4194302												
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											
Features														
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												
Approvals														
EMC		EN/BS 61800-3 (C1 & C2)												
LVD		EN/BS 61800-5-1 / UL 61800-5-1												
Product standard		EN/BS 61800 Part 2												
North America		UL -61800-5-2 / CS22.2.174												
RoHS Directive		Yes												
Product approvals		CE c UL us UK CA												

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

HVAC-3-05.22-OJ-DV-GB · Subject to alterations · ® The OJ trademark is a registred trademark belonging to OJ Electronics A/S