

## OJ Drives®



### OJ DV Brilliant for Agricultural Ventilation

- Sealing grade of IP 65
- Self-cooling
- -40°C to +50°C
- PM and AC motor support
- UL 61800-5-1, CS22.2.174 recognized

#### Reliable agricultural ventilation with OJ DV drives.

**The OJ DV single-phase ventilation drive is ideal for agricultural applications. It allows for manual phase load sharing, ensuring continuous ventilation even in the event of a grid fallout.**

#### Manual load sharing between supply phases

The single-phase OJ DV units are perfect for handling manual phase load sharing, which is widely used in applications for agriculture. You benefit from flexible supply distribution and continuous ventilation – even in the event of a grid/supply phase fallout. These are key features when designing a new agricultural building.

#### Self-cooling

The OJ-DV product range from 0.55 to 2.4kW is self-cooling thanks to the built-in cooling ribs. This means that you can place the unit outside the airflow, allowing for flexible installation. The self-cooling feature dispenses the need for a fan, prolonging the lifetime of your system and enabling the unit to handle harsh environments (e.g. IP 65). These features are highly rated when designing a building for agricultural use.

#### Wide supply voltage range

The wide supply voltage range – especially at the lower end – is another very useful feature for any agricultural building. This makes single-phase drives with higher shaft power a very attractive solution. The OJ DV single-phase versions can deliver full power down to a supply voltage of 190V and will continue to spin the motor down to a supply voltage of 160V. Three-phase versions are also available.

#### Norms and standards

The OJ DV series comes with a fully integrated EMC filter. This means that it 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 drive.

The OJ DV product series is cULus Recognised according to UL 61800-5-1 and CS22.2.174.



	Type	DV-1005	DV-1007	DV-1013	DV-3015	DV-3024
Enclosure		H1		H1x	H3	
Power size	kW	0.5	0.75	1.3	1.5	2.4
Efficiency	%	> 94%			> 96.5%	
<b>Power supply</b>						
Voltage	VAC	1 x 230 VAC 50/60 Hz +/-10%			3 x 400 VAC 50/60 Hz +/-10%	
Supply current at max. load	A	3.0	4.4	8.5	3.1	5.0
Power factor (cos-phi) at max. load		> 0.99 (Active PFC)			> 0.9	
<b>Motor output</b>						
Nominal motor power (on shaft) *1	kW	0.5	0.8	1.3	1.5	2.4
Frequency	Hz	0-120				
Max. output voltage	Vrms	3 x 0 - 250 VAC			3 x 0 - 364 VAC	
Max. output current	Arms	2.0	3.2	5.2	4.5	6.4
<b>Protection</b>						
Max. fuse	A	16				
Motor output		Short-circuit protected between phases				
Motor		Protected by current limit				
Impulse protection		Transient protected by VDR				
Over-voltage protection		Yes, 400 V (PTC)			Yes, 565 V	
Overload protection		Current and temperature overload protection				
<b>Environment</b>						
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	
Protection rating	IP	54/65				
Enclosure material		Aluminium				
Front cover		Plastic				
Weight	kg	2.0		3.6	3.0	
Humidity	% rh	10-95% rh, non-condensing				
Surface		Corrosion resistant to EN/ISO 12944-2:1998 Category C4				
Cooling		Self-cooling				
<b>Interfaces</b>						
Modbus RTU		RS485 (baud rate: 9.6, 19.2, 38.4, 56.7, 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				
<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 brake 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				
Short-circuit protection		Yes				
EMC filters		Integrated				
<b>Approvals</b>						
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						