

ODL-3-240095-342SB0

Optidrive Elevator Core VFD Datasheet

4 kW (5 HP), 9.5 A, 380-480 V, 3PH
IP20 Variable Frequency Drive with EMC Filter



Input Ratings

Supply Voltage	380-480 V
Input Phases	3
Supply Current Continuous	A
Supply Fuse or MCB (Type B)	A

Output Ratings

Motor Output Rating	4 kW (5 HP)
Output Voltage	0 – Supply Voltage
Output Current	9.5 A

Cable Information

Max Supply Cable Size	–
Max Motor Cable Size	–
Max Motor Cable Length	100 m (328 ft)

Factory Build Options

EMC Filter	Internal EMC
Brake Transistor	Internal
Enclosure	IP20
Display	LED
PCB Coating	Full Conformal

Dimensions

Size	2
Height	220 mm (8.66 in)
Width	110 mm (4.33 in)
Depth	184 mm (7.24 in)
Weight	2.3 kg (5.07 lbs)
Fixings	4xM5

Packaged Dimensions

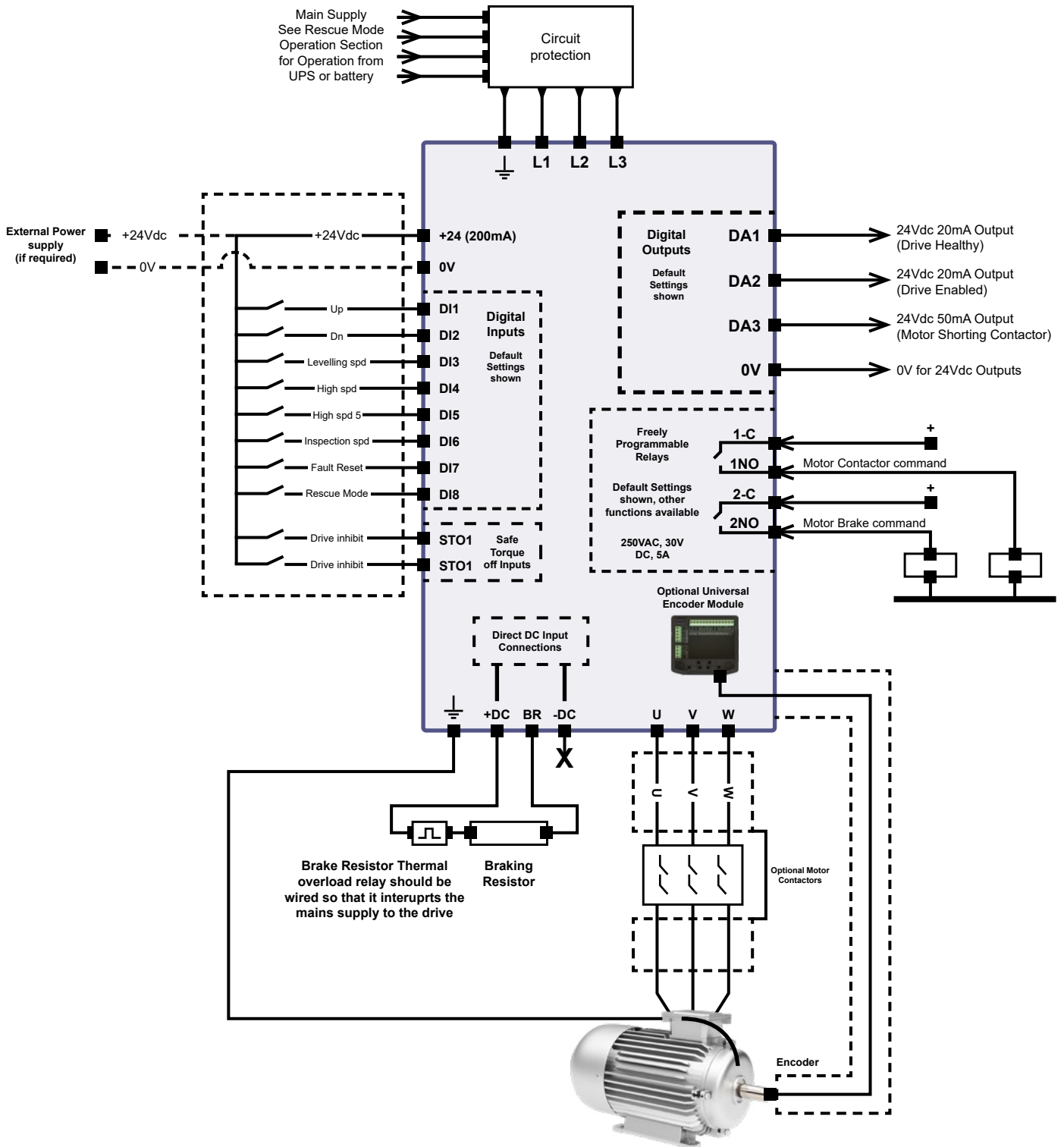
Height	208 mm (8.19 in)
Width	139 mm (5.47 in)
Depth	322 mm (12.68 in)
Weight	2.75 kg (6.06 lbs)



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The following document provides a summary of the Elevator Core drive's compliance, protection and feature set supported.



Drive Specification & Features

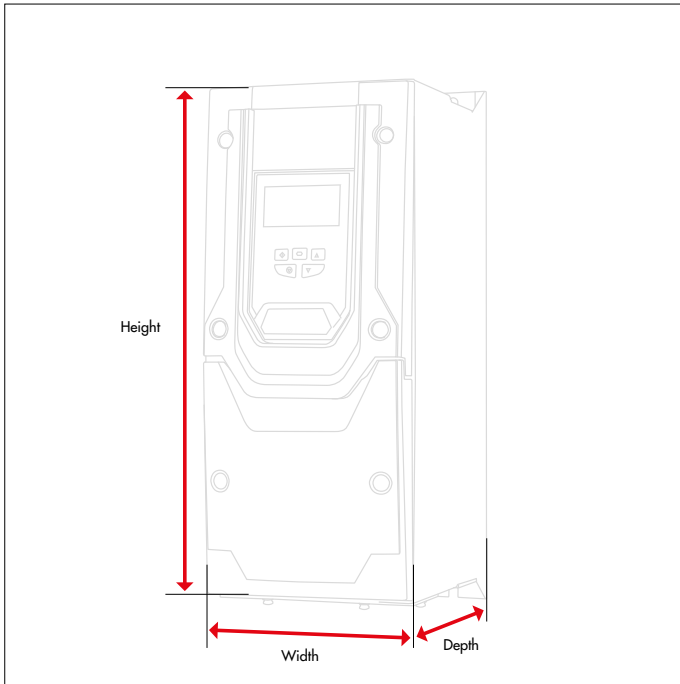
Compliance and Certifications	European product certification EN 61800-5-1	Elevator Drive Software Features	Elevator industry menu structure	Environmental Ratings	Minimum Temperature -10°C
	European product certification UL 61800-5-2 (Functional Safety)		200% overload capability		Maximum Temperature (No Derating Factor) (UL Approved) 50°C
	European EMC standards EN61800-3:2004		Frequencies up to 10 kHz @50°C (full load no de-rating throughout travel curve)		Minimum Storage Temperature -40°C
	USA product certification UL 61800-5-1		Roped static Autotune.		Maximum Storage Temperature 60°C
	USA product certification UL 61800-5-2 (Functional Safety)		PC Tool support > Programming, Setup, Monitoring, Backup, Scope, Trip Eliminator		Maximum Altitude (No Derating Factor) 1000 m
	*USA Lift standard ASME A17		USB C connection and mobile device/PC APP support		Maximum Altitude (Derating Factor of 1% per 100m after 1000m) UL Approved 2000 m
	Dual Safe Torque input according to EN 61800-5-2, SIL 3 *certification by TUV		Analogue and Digital control (NPN/PNP Logic)		Maximum Altitude (Derating Factor of 1% per 100m after 1000m) Non-UL Approved 4000 m
	Brake Contact Monitoring (Unintended Car Movement) EN 81-20:2014+A3 certification by Lift Institute		Control terminal assignment macro system or user definable to match elevator controller.		IP Class IP20
	Without Motor contactor conformity using Safe Torque Off inputs according to parts of EN 81-20:2014 and EN 81-50:2014 *certification by Lift Institute		Trip log time stamping		Relative Humidity <95% non-condensing
			Fault detection suppression.		Long life fans
Elevator Motor Control	Open and Closed Loop Geared motors	Encoder support	Built in flight recorder		
	Closed Loop Gearless motors		Analogue, Binary, Priority control, Control word		
	Open Loop Gearless (Encoder Fault finding, Commissioning only)		Analogue follower mode.		
	Built-in full rated Braking transistor throughout all ratings.		User adjustable Contactor sequencing		
Elevator Drive Protection <small>The following protection and monitoring features are built into the Optidrive Elevator Core drive as standard.</small>	Motor Contactor Closing delay time		Full travel profile setting and user stop profile configuration	Floor sensor correction	
	Motor Contactor feedback state check		Multiple speed and current loop gains	Multiple speed and current loop gains	
	Brake channel over current		Current loop and Encoder speed feedback filters	Current loop and Encoder speed feedback filters	
	Brake resistor thermal overload software protection.		Anti-rollback compensation (DC Injection, Position Lock, Load-Cell Input)	Anti-rollback compensation (DC Injection, Position Lock, Load-Cell Input)	
	Brake resistor thermal switch support.		Smooth Start function.	Smooth Start function.	
	Motor short circuit protection in all situations.		Creep to Floor operation	Creep to Floor operation	
	Motor thermal overload protection.	Short Floor Operation	Short Floor Operation		
	Output phase loss detection.	*Direct to Floor operation	*Direct to Floor operation		
	Drive reverse powering protection. (mains power connected to drive output).	Multiple speed and current loop gains	Multiple speed and current loop gains		
	Over voltage on DC bus	Current loop and speed feedback filters	Current loop and speed feedback filters		
	Under voltage on DC bus	Jerk Adjustments	Jerk Adjustments		
	Input phase loss trip	Low voltage Battery operation from 36Vdc up to drive rated Vdc	Low voltage Battery operation from 36Vdc up to drive rated Vdc		
	Input Phase imbalance (DC Bus Ripple)	Load measurement for rescue operation (Light Load Detection), Torque test, last run memory.	Load measurement for rescue operation (Light Load Detection), Torque test, last run memory.		
	Over temperature	Gravity Mode	Gravity Mode		
	Under temperature	User Unit Selections	User Unit Selections		
	Ambient Temperature too High	Overspeed Governor Test	Overspeed Governor Test		
	Multiple on-board thermistors, Within Power device, Control circuit, Power circuit.	Early Door Opening	Early Door Opening		
	Motor PTC monitoring.	Anti-Stall Protection	Anti-Stall Protection		
	Motor KTY monitoring.	Travel Counter	Travel Counter		
	External trip input	Rope-wear Counter	Rope-wear Counter		
	Control signal loss detection	User customisable Cooling Fan Control	User customisable Cooling Fan Control		
	Communications loss Fault detection	Output Phase Sequence swap.	Output Phase Sequence swap.		
	Heatsink Cooling Fan fault detection	DC Bus connection support of regenerative units	DC Bus connection support of regenerative units		
	Safe Torque off circuit Error detection	OEM Defaults.	OEM Defaults.		
	Encoder Feedback Faults	Universal Encoder module.	Universal Encoder module.		
	Autotune Error detection	Encoder wire break detection.	Encoder wire break detection.		
	Factory Default parameters have been loaded	Encoder direction swap.	Encoder direction swap.		
	Brake Release Monitoring	Encoder offset real-time feedback.	Encoder offset real-time feedback.		
Brake Release Monitoring Lockout	Encoder Feedback shaft copy, simulated Encoder output.	Encoder Feedback shaft copy, simulated Encoder output.			
Modbus comms fault	Incremental HTL, TTL single and quadrature type Encoders.	Incremental HTL, TTL single and quadrature type Encoders.			
CAN Open comms trip	Absolute Encoder support, Endat, SinCos *Biss.	Absolute Encoder support, Endat, SinCos *Biss.			
Service Timer					



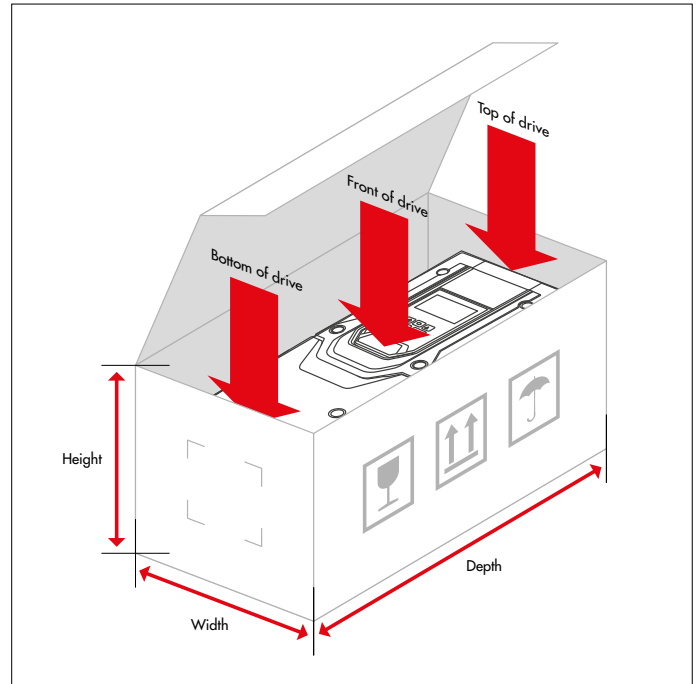
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Drive Dimensions



Packaging Dimensions



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