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*We reserve the right to change the information in this catalogue without prior notice



VFD-EL

Multiple Functions/Micro Type Drive





Features

- **Standard MODBUS Protocol** Standard MODBUS Protocol via RS-485
- **Built-in EMI Filter (230V 1-phase and 460V 3-phase)**
The built-in EMI filter reduces electromagnetic interferences and complies with EN61800-3 standard.
- **Compact Design**
Space saving and easy DIN rail mounting with optional DIN rail adapter(Built in Frame B)
- **Optional Fieldbus Modules**
Provide connection to a variety of networks, including PROFIBUS, DeviceNet, LonWorks and CANopen.
- **RFI-Switch for IT Mains**
Removable "Y" capacitor to use with IT mains supplies.
- **Easy DC BUS Sharing**
Multiple VFD-EL can be connected in parallel to share the regenerative braking energy.
In this way, over-voltage is prevented and the DC-bus voltage stabilized.
This function is not for 115V models.
- **Complete Protection Function**
High precision current detection, full overload protection (oL, oL1 and oL2), over-voltage/over-current stall prevention, short-circuit protection, reset after fault, speed search function and motor overheat protection by PTC.
- **Power Range**
1-phase 115V series: 0.2~0.75kW (0.25~1hp)
1-phase 230V series: 0.2~2.2kW (0.25~3hp)
3- phase 230V series: 0.2~3.7kW (0.25~5hp)
3- phase 460V series: 0.4~3.7kW (0.50~5hp)
- **Side-by-side Installation(40°C)**
High-efficiency cooling and flexible space
- **Easy Maintenance**
Removable cooling fan for easy maintenance



Application cases

Conveyor Belts

1. Multi-step speed application: provides multi-step speed settings to meet the needs of conveyor belt.
2. Side-by-side installation to save space.
3. DC-bus sharing: connect multiple drives in parallel to share the regenerative energy and prevent over-voltage.



Winders

With auto acceleration/deceleration function, it can have a rapid start/stop to increase productivity and speed.



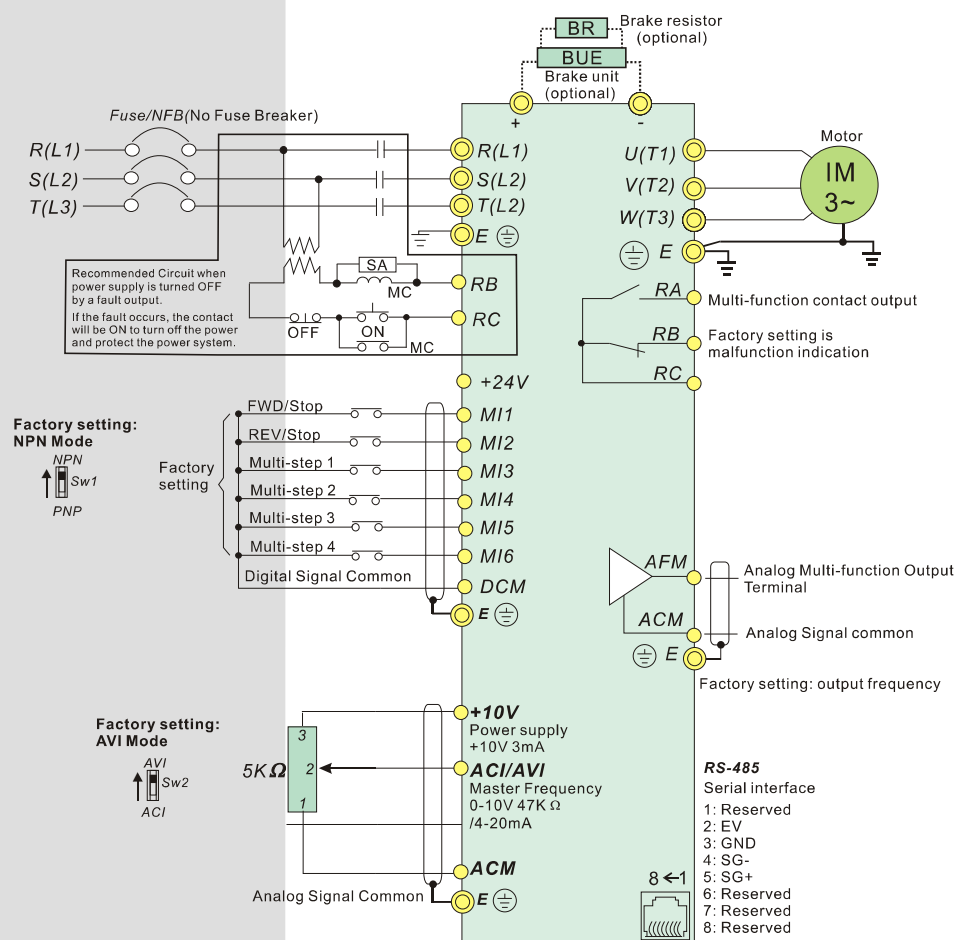
Constant Pressure Control of Water Pumps

1. Built-in smart PID controller to save the cost of specific external PID meter.
2. Built-in auto detection of water suspension and auto power-on to save the cost of external PLC controller and relay.
3. A wide range of input voltages, including 1-phase 110V/230V and 3-phase 230V/460V, for various pump applications and different countries.



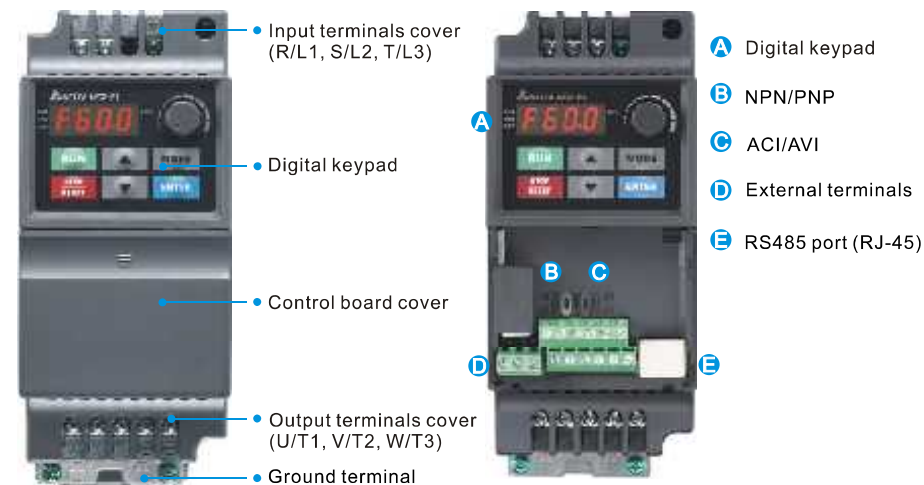


Standard Wiring Diagram

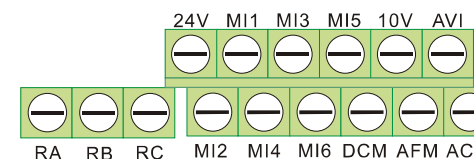


● Main circuit (power) terminals ○ Control circuit terminals Shielded leads & Cable

External Parts

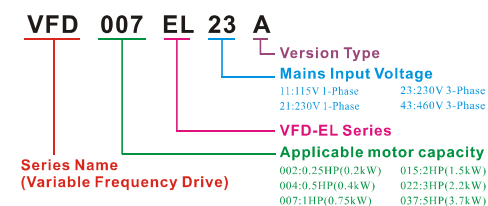


Control Terminals



RS-485

Model Explanation





Application Fields

Conveyor and Transportation Machinery

- Conveyor belt
- Automatic doors
- Roller door
- Small elevator
- Escalator
- Parking device
- X-Y axis of traveling crane

Food Processing

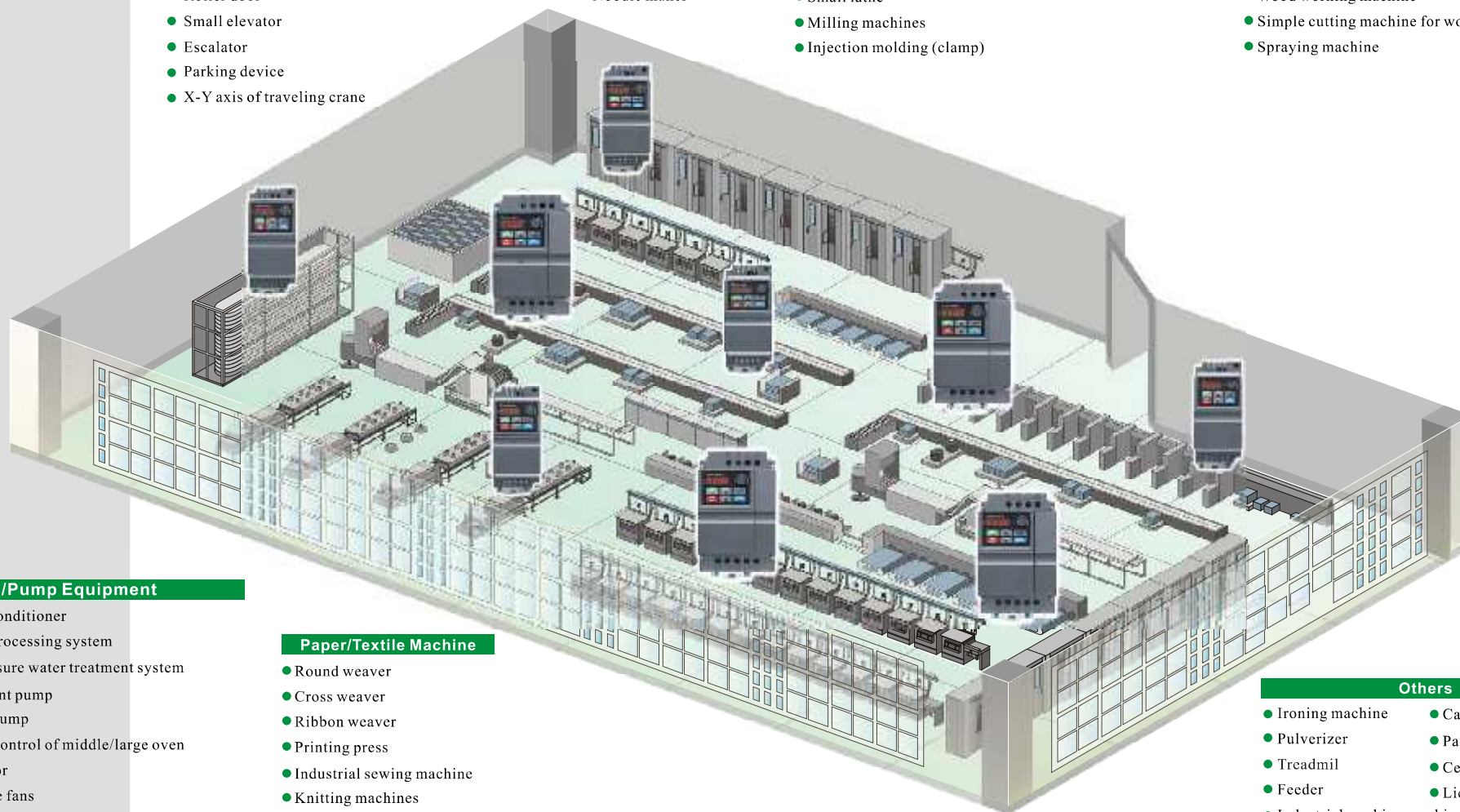
- Dumpling maker
- Food stirrer
- Noodle maker

Machine Tool/Metal Processing Machinery

- Grinder
- Drill
- Small lathe
- Milling machines
- Injection molding (clamp)

Wood Working Machinery

- 4 side planer
- Wood carver
- Wood working machine
- Simple cutting machine for wood working
- Spraying machine



Fan/Pump Equipment

- Building air conditioner
- Waste water processing system
- Constant pressure water treatment system
- Water treatment pump
- Agricultural pump
- Temperature control of middle/large oven
- Air compressor
- Heat exchange fans
- Building water dispenser system
- Dryer's windmill

Paper/Textile Machine

- Round weaver
- Cross weaver
- Ribbon weaver
- Printing press
- Industrial sewing machine
- Knitting machines

Others

- Ironing machine
- Pulverizer
- Treadmill
- Feeder
- Industrial washing machine
- Car washing machine
- Packing machine
- Centrifuge
- Liquid mixer



Specifications

Voltage Class	115V		
Model Number VFD-___EL	002	004	007
Max. Applicable Motor Output (kW)	0.2	0.4	0.75
Max. Applicable Motor Output (HP)	0.25	0.5	1.0
Output Rating	Rated Output Capacity (kVA)	0.6	1.0
	Rated Output Current (A)	1.6	2.5
	Maximum Output Voltage (V)	3-Phase Proportional to Twice the Input Voltage	
	Output Frequency (Hz)	0.1~600 Hz	
Input Rating	Carrier Frequency (kHz)	2-12	
	Rated Input Current (A)	Single-phase	
	Rated Voltage/Frequency	Single phase, 100-120V, 50/60Hz	
	Voltage Tolerance	± 10% (90~132 V)	
	Frequency Tolerance	± 5% (47~63 Hz)	
	Cooling Method	Natural Cooling	
Weight (kg)	1.1	1.1	1.4

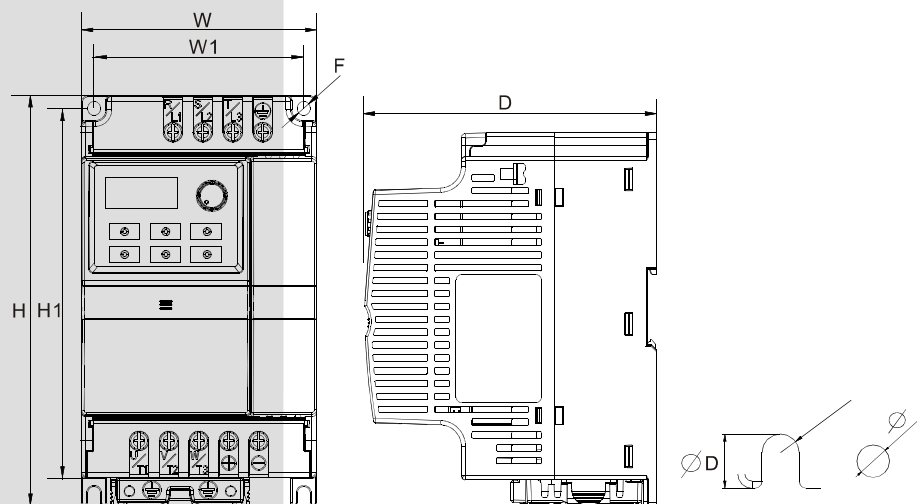
Voltage Class	230V					
Model Number VFD-___EL	002	004	007	015	022	037
Max. Applicable Motor Output (kW)	0.2	0.4	0.75	1.5	2.2	3.7
Max. Applicable Motor Output (HP)	0.25	0.5	1.0	2.0	3.0	5.0
Output Rating	Rated Output Capacity (kVA)	0.6	1.0	1.6	2.9	4.2
	Rated Output Current (A)	1.6	2.5	4.2	7.5	11.0
	Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage				
	Output Frequency (Hz)	0.1~600 Hz				
Input Rating	Carrier Frequency (kHz)	2-12				
	Rated Input Current (A)	4.9	6.5	9.5	15.7	24
	Rated Voltage/Frequency	1-phase, 200-240V, 50/60Hz				
	Rated Input Current (A)	1.9	2.7	4.9	9	15
	Rated Voltage/Frequency	3-phase, 200-240V, 50/60Hz				
	Voltage Tolerance	± 10% (180-264V)				
Cooling Method	Frequency Tolerance	± 5% (47-63Hz)				
		Natural Cooling		Fan Cooling		
Weight (kg)	1.2	1.2	1.2	1.7	1.7	1.7

Voltage Class	460V Class					
Model Number VFD-___EL	004	007	015	022	037	
Max. Applicable Motor Output (kW)	0.4	0.75	1.5	2.2	3.7	
Max. Applicable Motor Output (HP)	0.5	1.0	2.0	3.0	5.0	
Output Rating	Rated Output Capacity (kVA)	1.2	2.0	3.3	4.4	6.8
	Rated Output Current (A)	1.5	2.5	4.2	5.5	8.2
	Maximum Output Voltage (V)	3-Phase Proportional to Input Voltage				
	Output Frequency (Hz)	0.1~600 Hz				
Input Rating	Carrier Frequency (kHz)	2-12				
	Rated Input Current (A)	3-phase				
	Rated Voltage/Frequency	1.8	3.2	4.3	7.1	9.0
	Rated Voltage/Frequency	3-phase, 380-480V, 50/60Hz				
	Voltage Tolerance	± 10% (342~528V)				
	Frequency Tolerance	± 5% (47~63Hz)				
Cooling Method		Natural Cooling		Fan Cooling		
	Weight (kg)	1.2	1.2	1.2	1.7	1.7

Control Characteristics	Control System		SPWM(Sinusoidal Pulse Width Modulation) control (V/f control)
	Frequency Setting Resolution		0.01Hz
	Output Frequency Resolution		0.01Hz
	Torque Characteristics		Including the auto-torque/auto-slip compensation; starting torque can be 150% at 5.0Hz
	Overload Endurance		150% of rated current for 1 minute
	Skip Frequency		Three zones, setting range 0.1-600Hz
	Accel/Decel Time		0.1 to 600 seconds (2 Independent settings for Accel/Decel time)
	Stall Prevention Level		Setting 20 to 250% of rated current
	DC Braking		Operation frequency 0.1-600.0Hz, output 0-100% rated current Start time 0-60 seconds, stop time 0-60 seconds
	Regenerated Braking Torque		Approx. 20% (up to 125% possible with optional brake resistor or externally mounted brake unit, 1-15hp (0.75-11kW) models have brake chopper built-in)
V/F Pattern		Adjustable V/f pattern	
Operating Characteristics	Frequency Setting	Keypad	Setting by ▲ ▼
		External Signal	Potentiometer-5k/0.5W, 0 to +10VDC, 4 to 20mA, RS-485 interface; Multi-function Inputs 3 to 6 (15 steps, Jog, up/down)
	Operation Setting Signal	Keypad	Set by RUN and STOP
		External Signal	2 wires/3 wires ((M11, M12, M13)), JOG operation, RS-485 serial interface (MODBUS), programmable logic controller
	Multi-function Input Signal		Multi-step selection 0 to 15, Jog, accel/decel inhibit, 2 accel/decel switches, counter, external Base Block, ACI/AVI selections, driver reset, UP/DOWN key settings, NPN/PNP input selection
	Multi-function Output Indication		AC drive operating, frequency attained, counter attained, zero speed, Base Block, fault indication, overheat alarm, emergency stop and status selections of input terminals
	Analog Output Signal		Output frequency/current
	Alarm Output Contact		Contact will be ON when drive malfunctions (1 Form C/change-over contact or 1 open collector output)
	Operation Functions		AVR, accel/decel S-Curve, over-voltage/over-current stall prevention, 5 fault records, reverse inhibition, momentary power loss restart, DC braking, auto torque/slip compensation, adjustable carrier frequency, output frequency limits, parameter lock/reset, PID control, external counter, MODBUS communication, abnormal reset, abnormal re-start, power-saving, fan control, sleep/wake frequency, 1st/2nd frequency source selections, 1st/2nd frequency source combination, NPN/PNP selection, constant pressure function
	Protection Functions		Over voltage, over current, under voltage, external fault, overload, ground fault, overheating, electronic thermal, IGBT short circuit, PTC
Display Keypad		6-key, 7-segment LED with 4-digit, 4 status LEDs, master frequency, output frequency, output current, custom units, parameter values for setup and lock, faults, RUN, STOP, RESET, FWD/REV	
Built-in EMI Filter		For 230V 1-phase and 460V 3-phase models.	
Environmental Conditions	Enclosure Rating		IP20
	Pollution Degree		2
	Installation Location		Altitude 1,000 m or lower, keep from corrosive gasses, liquid and dust
	Ambient Temperature		-10°C to 50°C (40°C for side-by-side mounting) Non-Condensing and not frozen
	Storage/Transportation Temperature		-20°C to 60°C
	Ambient Humidity		Below 90% RH (non-condensing)
	Vibration		9.80665m/s ² (1G) less than 20Hz, 5.88m/s ² (0.6G) at 20 to 50Hz
	Approvals		  



Dimensions



Unit: mm(inch)

Model	W	W1	H	H1	D	F
VFD002EL11A						
VFD002EL21A						
VFD002EL23A						
VFD004EL11A						
VFD004EL21A						
VFD004EL23A	72.0 (2.83)	59.0 (2.32)	174.0 (6.86)	151.6 (5.97)	136.0 (5.35)	5.4 (0.21)
VFD004EL43A						
VFD007EL21A						
VFD007EL23A						
VFD007EL43A						
VFD015EL23A						
VFD015EL43A						
VFD007EL11A						
VFD015EL21A						
VFD022EL21A	100.0 (3.94)	89.0 (3.50)	174.0 (6.85)	162.9 (6.42)	136.0 (5.35)	5.4 (0.21)
VFD022EL23A						
VFD022EL43A						
VFD037EL23A						
VFD037EL43A						

Fieldbus Modules

- DeviceNet
CME-DN01



- Profibus
CME-PD01



- LonWorks
CME-LW01



- CANopen
CME-COP01



Accessories

- Zero phase reactor
RF220X00A



- Keypad for communication
VFD-PU06



- DIN Rail (Width 35mm)

MKEL-DRA



(Frame A is optional)

MKEL-DRB



(Frame B is built-in)

- Grounding plate
MKE-EP



- Brake resistor



- Brake unit

BUE-20015 BUE-40015
BUE-20037 BUE-40037



WENTYLATORY



NAGRZEWNICE



ODPYLACZE



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ZAWEX

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AKCESORIA



SANYU

LS



FALOWNIKI

SKLEP **FALOWNIKI.PL**

Fotowoltaika

W ofercie w atrakcyjnych cenach
panele, inwertery, osprzęt
i akcesoria



Możliwość wykonania projektu
i montażu instalacji



Przetwornica
SinusPro-1000S

Seria solarnych przetwornic
napięcia sinusPRO serii S
służy do zasilania urządzeń
elektrycznych wymagających
napięcia przemiennego 230V z
akumulatorów i instalacji
samochodowych o napięciu stałym 12V



Parametry:

- Moc: 700/1000W
- Tryby pracy: PV (przeznaczony do współpracy z ogniwami PV) lub AC
- Zakres napięcia wejściowego (PV): 12-25 VDC, IAC: 140-275 VAC
- Sprawność: >92%
- Maksymalny prąd ładowania: 10A MPPT

Przetwornice napięcia
przeznaczone do współpracy
z panelami PV

Mapka dojazdu



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