

# VSD07 Submicro Drive

Performance, Functionality  
and Flexibility in Submicro  
Ultra-Compact Design for OEMs

The VSD07 drive offers ultra-compact design and flexible capabilities to meet a wide variety of applications. It can be configured to meet wide application-specific needs. VSD07 is ideally suited for OEMs.

## Application Examples

- Small conveyors
- Electric doors
- Small packaging machines
- Pumps
- Fans
- HVAC
- Food and beverages
- Woodworking
- Rotating machinery

## Performance

- Constant torque
- Variable torque profile
- Selectable inputs/outputs
- Ease of programming
- Adjustable voltage boost

## System Protection

- Short circuit protection
- Motor thermal overload protection
- Automatic restart (user selectable)
- Controlled stopping (user selectable)
- Multiple levels of controller protection



## Functionality

- Configurable I/O: allows customization of functions to meet application requirements
- Seven preset speeds: selectable
- 2-wire and 3-wire start/stop control
- Motor-operated potentiometer: increase/decrease frequency by contact closure
- One Analog output: 0 to 10V or 2 to 10V or 4 to 20 mA (with 500 ohm series resistor)
- Output scaling: frequency or load analog output signals (scalable)
- Password: user selectable for security
- Dual set-up configuration: can be stored in the drive (one in a run mode)
- Fault history: up to last eight
- Serial communications: RS 485
- Remote keypad and display: optional



**SQUARE D**  
GROUPE SCHNEIDER

# VSD07 Submicro Drive

## Environment

### Ambient temperature:

- Operation: 32°F to 122°F (0°C to 50°C)
- Storage: -4°F to 158°F (-20°C to 70°C)  
Valid up to 3300 feet (1000 m) altitude without any derating

### Relative humidity:

- 95% non-condensing and without dripping

### Degree of protection:

- Open style with cover (IP20)

### Product certification:

- UL/CUL Listed

## Electrical Characteristics

### Input power:

- Voltage 1-phase (dual rated) 120V or 240V / 208V  
1-phase / 3-phase 240V / 208V  
3-phase 240V / 208V  
3-phase 480V / 400V  
3-phase 590V / 480V

Tolerance +10%, -15%

Frequency 48 Hz to 62 Hz

Output frequency range: Up to 120 Hz

### Maximum transient current:

- 150% of nominal drive current for 60 seconds
- 180% of nominal drive current for 20 seconds

Current limit: Adjustable from 30% to 180% (above 100%, time limitations apply)

### Inputs:

- Analog 1 voltage input: 0 to 10V d.c.  
1 current input: 4 to 20 mA  
Digital 3 logic inputs: all configurable

### Outputs:

- Analog 2 voltage outputs: 0 to 10V d.c. or 2 to 10V d.c. or,  
2 current outputs: 4 to 20 mA (by connecting 500 ohm series resistor)  
Digital 2 open collector outputs: all configurable

### Acceleration and deceleration ramps:

One linear ramp each, adjustable from 0.1 to 2970 seconds.

### Voltage boost:

- Fixed Adjustable up to 30%  
Acceleration Adjustable up to 19.8%

### Switching frequency:

Factory set for 4 kHz. Adjustable kHz: 4, 6, 8, 10 (for 8, 10 kHz, derating applies)

### Motor protection:

Thermal motor overload protection by the drive by dynamic calculation of connected motor  $I^2t$ .

## Selection Information

Input	Power Output	Motor (HP) <sup>@</sup>	Rated Output (nominal FLA) <sup>**</sup>	Catalog Number	Dimensions H x W x D in.
120V Single Phase or 208V/240V Single Phase	230V Three Phase	1/4	1.4*/1.6/1.4	VSD07 U07 P10	5.75x2.88x3.76
	200V/230V Three Phase	1/2	2.2*/2.5/2.2	VSD07 U09 P10	5.75x2.88x3.76
		1	4.0*/4.6/4.0	VSD07 U18 P10	5.75x3.76x5.24
208V/240V Single Phase or Three Phase	200V/230V Three Phase	1/4	1.6/1.4	VSD07 U07 P20	5.75x2.88x3.76
		1/2	2.5/2.2	VSD07 U09 P20	5.75x2.88x3.76
		1	4.6/4.0	VSD07 U18 P20	5.75x2.88x4.56
208V/240V Three Phase	200V/230V Three Phase	1	4.6/4.0	VSD07 U18 M20	5.75x2.88x4.56
		1.5	6.2/5.4	VSD07 U25 M20	5.75x2.88x5.56
		2	7.8/6.8	VSD07 U29 M20	5.75x2.88x5.56
400V/480V Three Phase	400V/460V Three Phase	1/2	1.3/1.1	VSD07 U09 N40	5.75x2.88x3.76
		1	2.3/2.0	VSD07 U18 N40	5.75x2.88x4.56
		1.5	3.1/2.7	VSD07 U25 N40	5.75x2.88x5.56
		2	3.9/3.4	VSD07 U29 N40	5.75x2.88x5.56
590V Three Phase	575V Three Phase	1	1.6	VSD07 U18 S60	5.75x2.88x4.56
		2	3.0	VSD07 U29 S60	5.75x2.88x5.56
		3***	4.2	VSD07 U41 S60	5.75x3.76x6.74
		5***	6.6	VSD07 U72 S60	5.75x3.76x6.74

\* Current rating is for 120V ac input

\*\* Higher current rating is for lower of the two input voltages mentioned

\*\*\* Available in future

@ Other sizes may be available; consult Square D local office

Visit the Square D web site at [www.squared.com](http://www.squared.com)

