Compact Drive

M300 Series

Automation for a Changing World

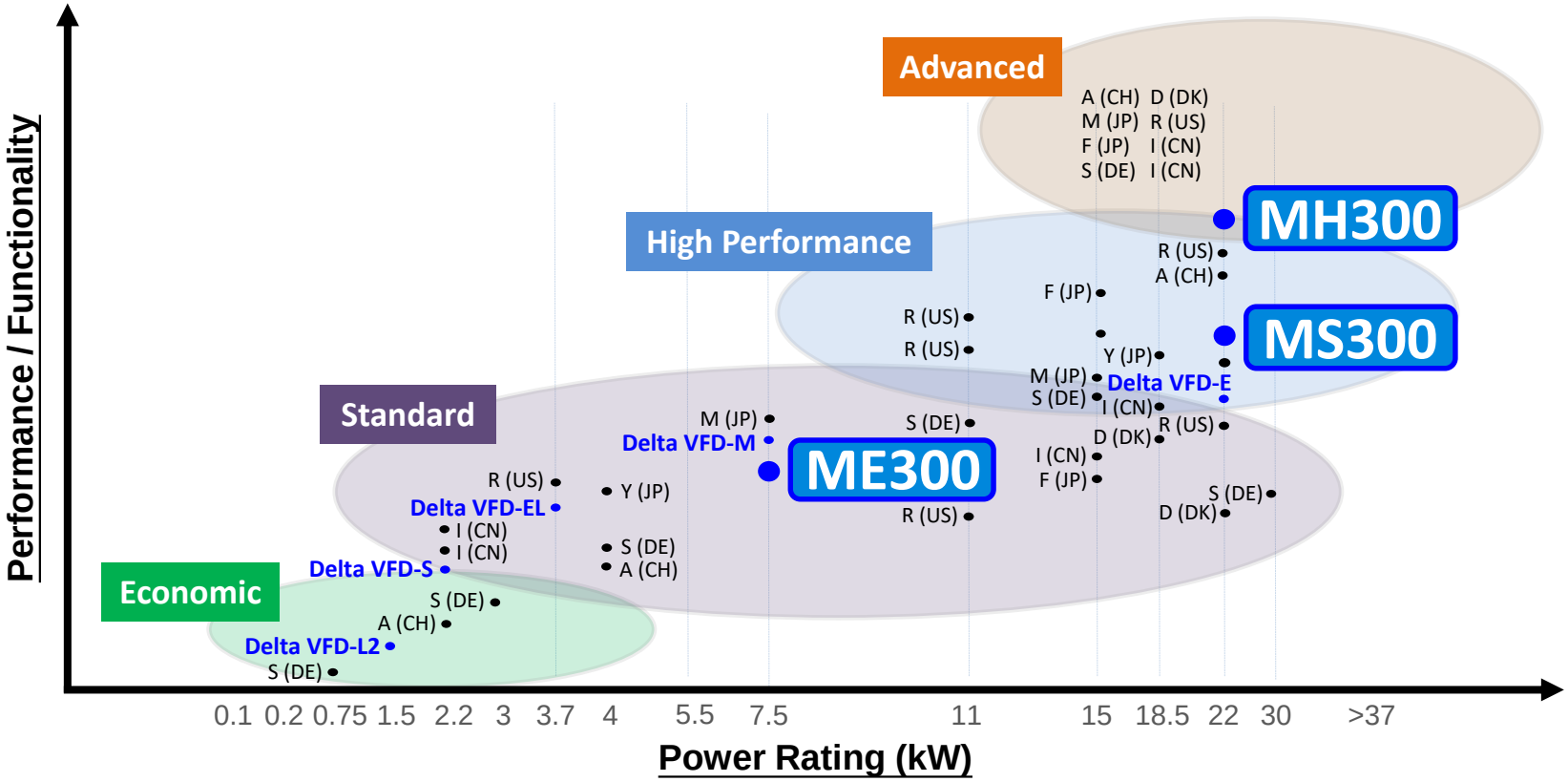
MDSBU

Outline

- Market Position
- Introduction
- Features & Functions
- Spec. Comparison

Market Position

Compact Drives Product Position



Introduction

M300 Family Advantages

Energy Saving

IM/PM

Unlimited Possibility

Customization

Reliability

100% Coating

Compact Design

Space Saving

Multi-function

Flexibility

Long Lifespan

Maintain Easily

M300 Family

Delta Compact Drive

	Power range (kW)	0.1	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
 **Basic Compact Drive** *ME300 Series*	Standard model (0~599Hz)	115V/1-phase												
		230V/1-phase												
		230V/3-phase												
				460V/3-phase										
 **Standard Compact Drive** *MS300 Series*	Standard model (0~599Hz)		115V/1-phase											
			230V/1-phase											
			230V/3-phase											
				460V/3-phase										
 **High Performance Compact Drive** *MH300 Series*	High Speed model (>599Hz)					230V/1-phase								
						230V/3-phase								
						460V/3-phase								

Basic Compact Drive

ME300 Series

Specifications

- VF, SVC and open loop control
- Small and compact design, rating: 0.1~ 7.5kW
- Supports IM, **IPM/SPM** motors
- Optional **built-in EMC filter** for 1-phase 230V(C2), 3-phase 460V(C3) models
- Optional built-in STO (SIL2) models
- Supports **high speed pulse and PWM** signal input for simple close loop
- Built-in single / **Multi-pump** function (similar to VFD-EL)
- Multi-speed function: 16 programmable speeds
- Auto-tuning

Applications

- Food and Beverage | Packing | Electronics Manufacturing | Fan | Pump | Compressor

ME300 Overview

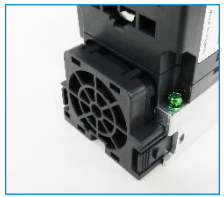
4-digits LED Display

Screwless Front Case

Press on both side tabs to remove case without any tools

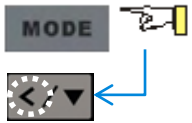
Removable Fan

Easy to replace and maintain

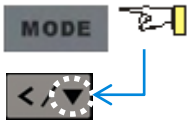


Potentiometer

Digit Shift / Down Function Key



Press ”MODE” more than 2 seconds will start the shift function



Normal Press (less than 2s)

Features & Functions

Feature – Flexible Space Utilization

New Compact Design

Smaller, more powerful

High space utilization rate

Side-by-side Installation

High installation flexibility

Ambient temperature(without de-rating):

Side-by-side: -20 ~ 40℃

Single: up to 50 ℃

Feature – Excellent Drive Capability

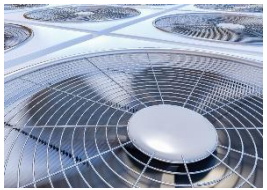
Supports Various Motors

Supports IM & PM motors on the same drive

Dual Rating / High Overload

Normal duty: rated current 120% for 60 seconds; 150% for 3 seconds

Heavy duty: rated current 150% for 60 seconds; 200% for 3 seconds



Ventilation

Normal Duty

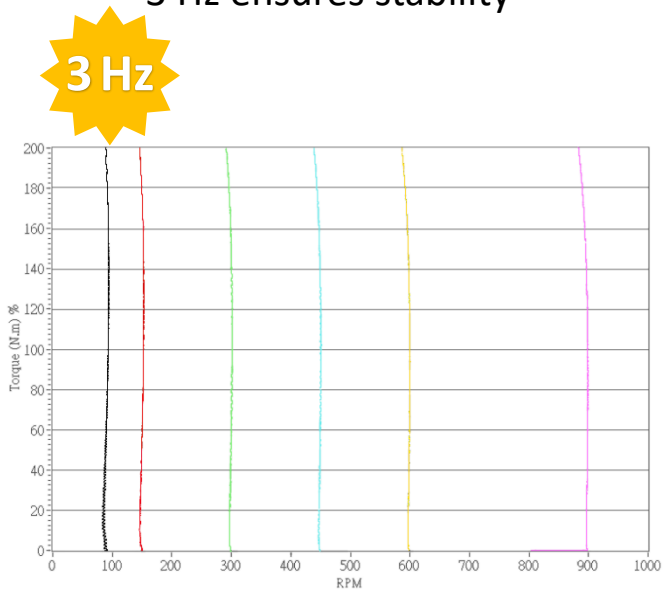
Wood-working

Heavy Duty

Feature – Excellent Drive Capability

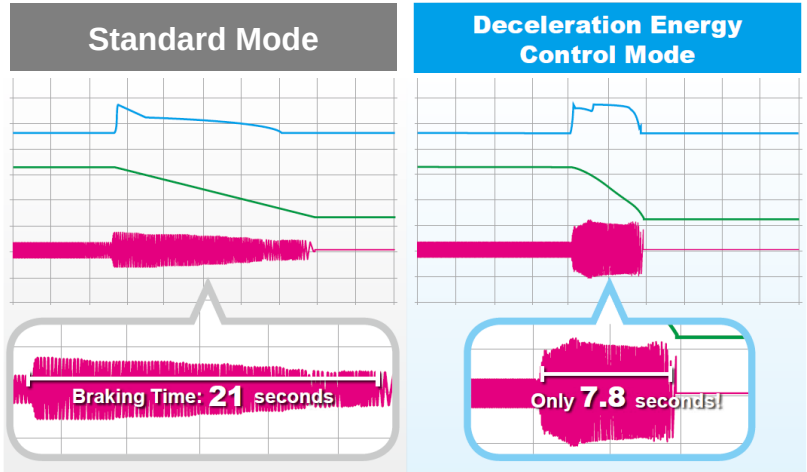
High Starting Torque

Up to 200% rated torque when starting at 3 Hz ensures stability



Energy Traction Control

Deceleration time shortened with lower braking resistor cost

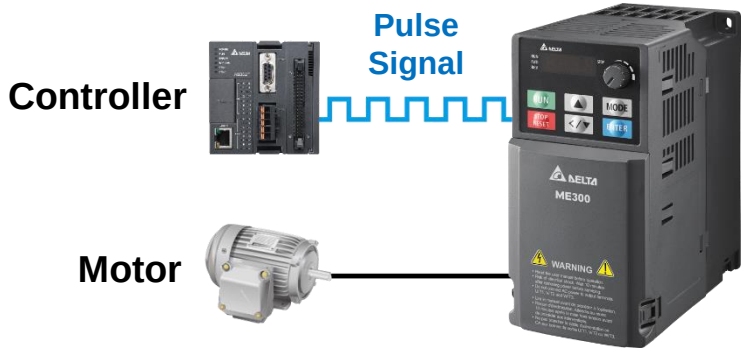


* Actual deceleration performance varies upon different system loads

Feature – Powerful System Support

High Frequency Pulse Input

- Accepts pulse (PWM) 10kHz signal from controller as frequency command
- Adjusts speed according to PWM duty cycle
- Achieves simple close loop control
- Saves system cost

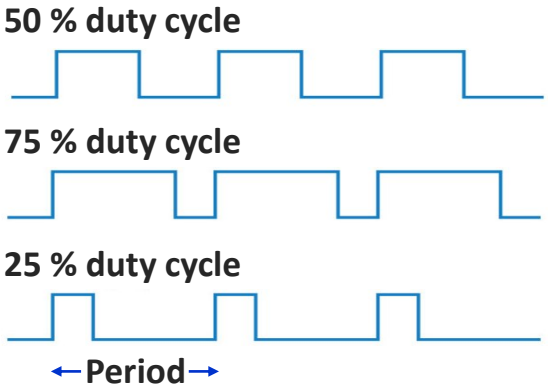


E.g.:

When output frequency (01-01) set to 50Hz,

Case 1: PWM duty cycle is 80%,
output frequency will be 40Hz.

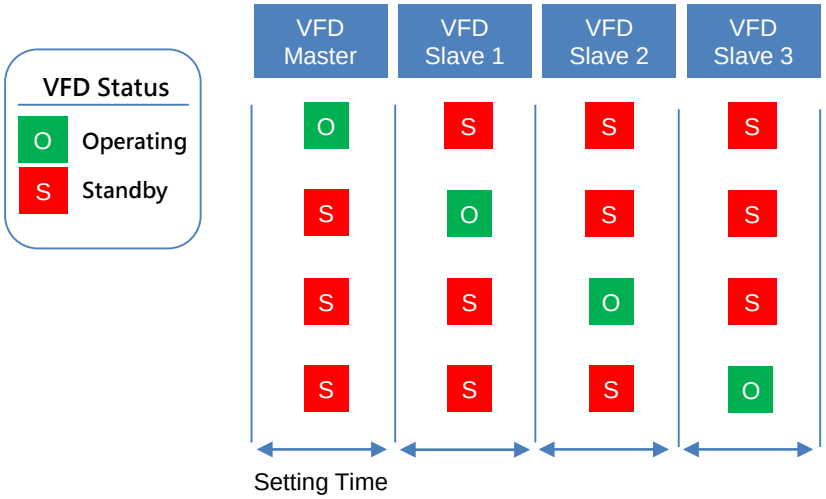
Case 2: PWM duty cycle is 25%,
output frequency will be12.5Hz



Feature – Multi-pump

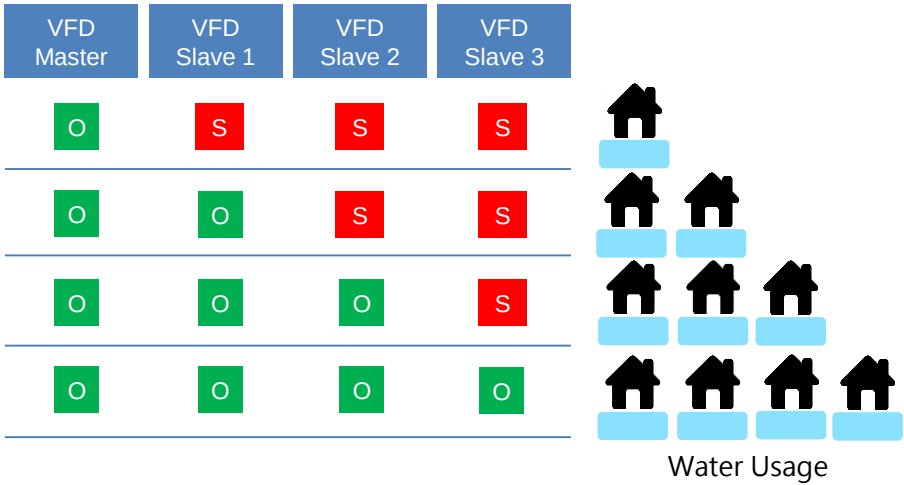
Alternate Operat

- Alternates pump operation as time setting
- Cycle can be set by hours, days or weeks
- Up to 4 drives



Constant Pressure Mode

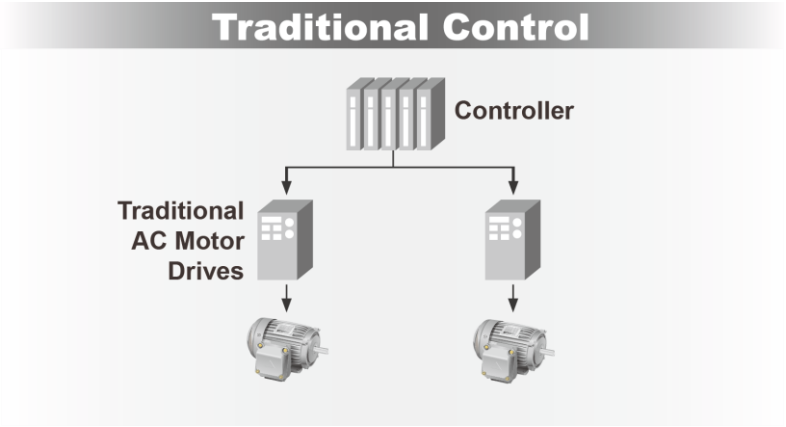
- Adjusts pump operation to provide constant water pressure when usage increases
- Can be active with constant pressure mode

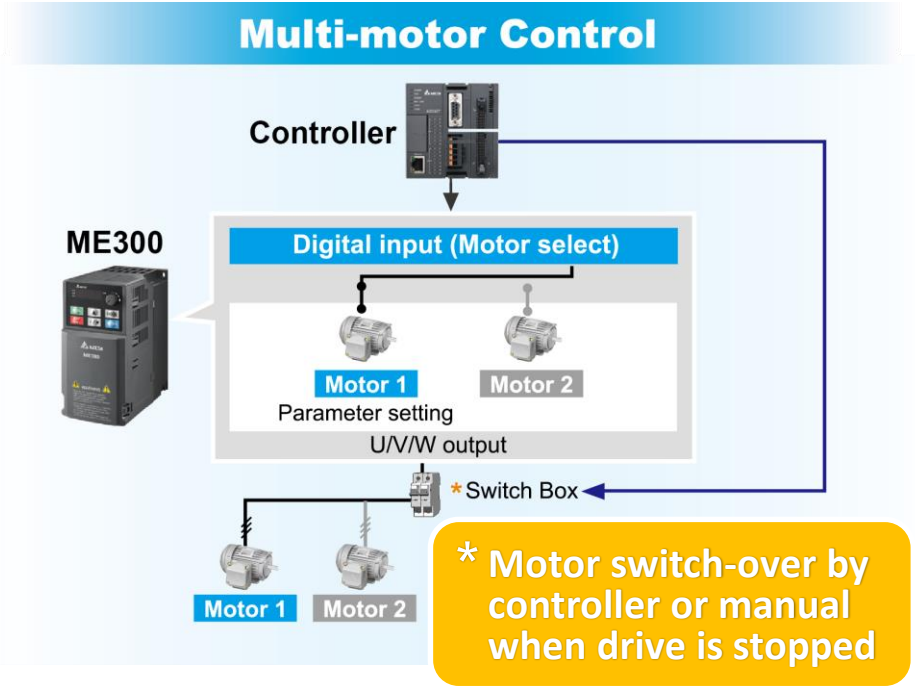


Feature – Powerful System Support

Multi-motor Switching Control

- Supports 2 sets of IM motors parameters
- Motor switching
- Alternative operating
- Space and cost saving





Feature – Easy to Use

Parameter Group for Applications

Traditional drives

- Lots of parameter settings and steps
- One application in different groups
- Time and effort consuming

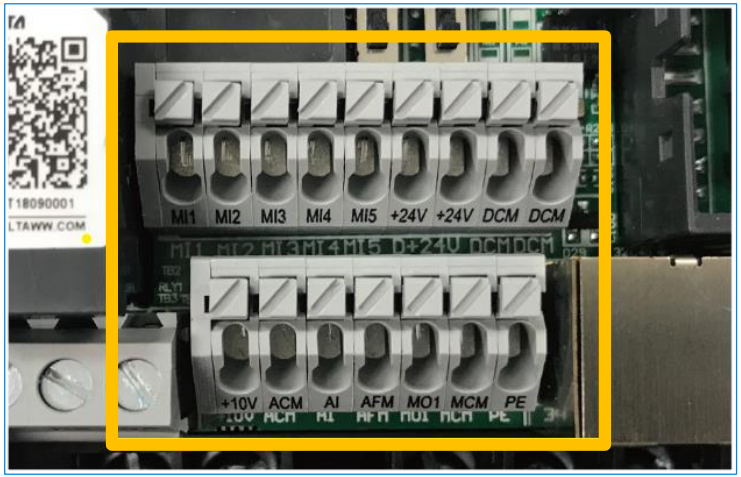
ME300

- Grouping parameters for application category
- Allows users to view and set up easily
- Simple setting procedures

01: User Defined
02: Compressor
03: Fan
04: Pump
05: Conveyor

Screw-less Wiring

Spring type terminal provides fast wiring on control terminals



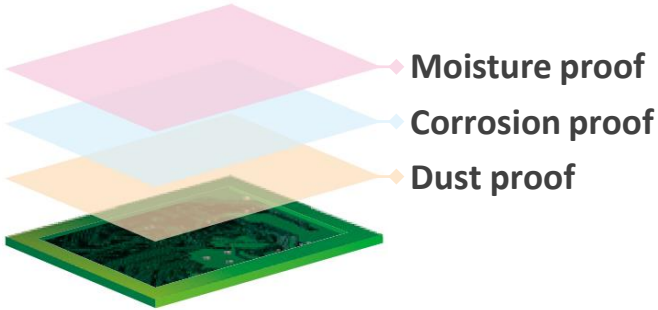
Feature – High Reliability

NEMA 1 Kit

- Protects against access of dust or other particles
- Avoids electric shock
- Suitable for harsh environment

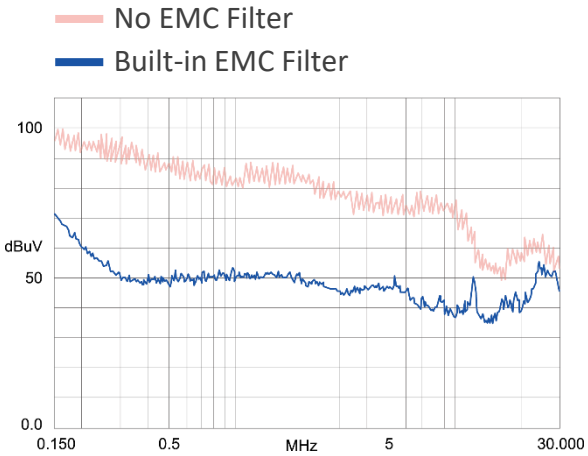
Dirt-proof – PCB coating

- 100% PCB coating
- IEC 60721-3-3 class 3C2
- Resistant to moisture, corrosion and dust



Built-in EMC filter

- 200V model: class A C2
- 400V model: class A C3

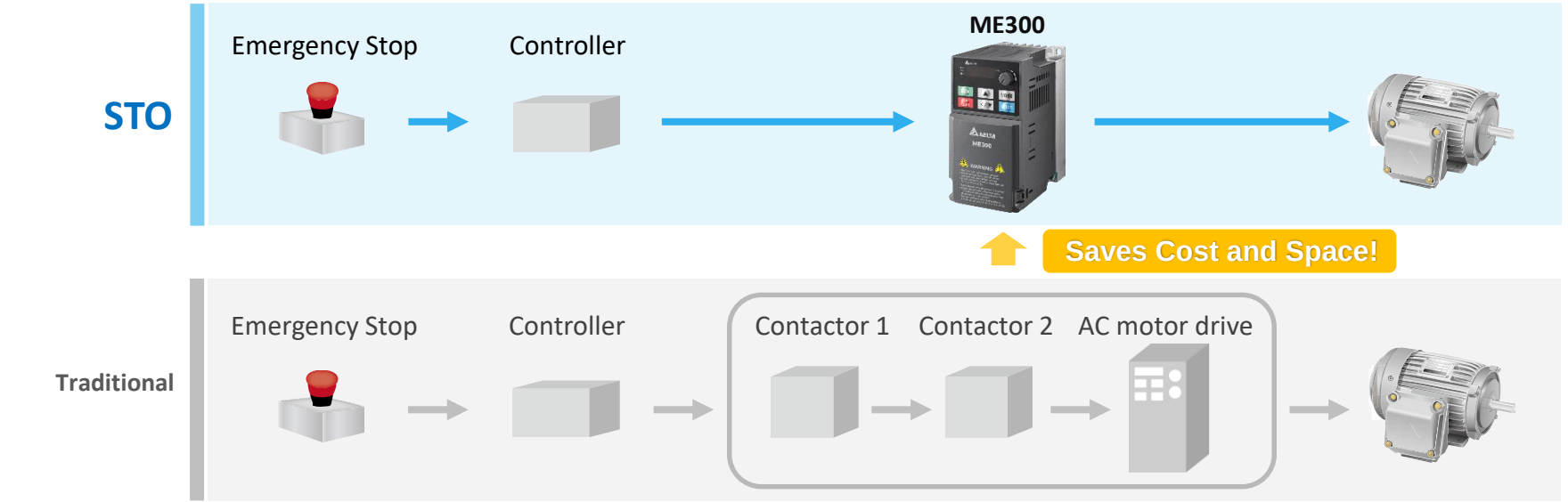


Feature – High Reliability

Safe Torque Off

Optional Safe Torque Off (STO) function, compliant with:

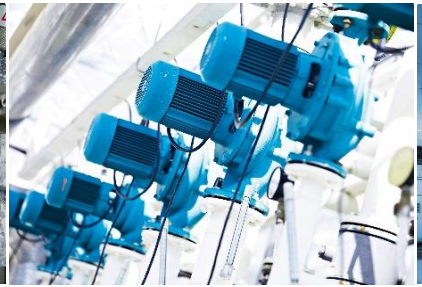
- **ISO 13849-1: 2015 Category 3 PL d**
- **EN 61508 SIL2**
- **EN 60204-1 Category 0**
- **EN 62061 SIL CL 2**



Applications

ME300: Food and Beverage | Packing | Electronics Manufacturing | Fan | Pump | Compressor

Machine Tool	Textiles	Wood	Packing
			

Food and Beverage	Pump	Electronics Manufacturing
		

Spec. Comparison

Difference between ME300 & VFD-EL/S/L

Model Name	ME300	VFD-EL	VFD-S	VFD-L
Motor	IM、PM	IM	IM	IM
Control	V/f、SVC	V/f, SVC	V/f	V/f
Output Frequency (Hz)	0.1~599Hz	0.1~600Hz	0.1~400Hz	0.1~400Hz
Carry Frequency (KHz)	2~15 KHz	2~12 KHz	3~10 KHz	3~10 KHz
Digital Input	MI1~MI5 (All programmable)	MI1~MI6 (4 programmable)	MI1~MI6 (5 programmable)	MI1~MI4 (All programmable)
Relay Output	RA/RB/RC	RA/RB/RC	RA/RB/RC	RA/RC
Digital Output	1	x	1	x
Analog Input	1	1	1	1
Analog Output	1	1	1	x
Pulse in	1 (High speed pulse or PWM)	x	x	x

Difference between M300 Family

Main Spec.	MH300	MS300	ME300
IM motor	V/f, V/f+PG, SVC, FOC+PG, TQC+PG	V/f, SVC	**V/f, SVC**
PM motor	PMSVC	PMSVC	**PMSVC**
built-in PLC capacity	5000 steps	2000 steps	**x**
Slot for option card	1 (communication)	1 (communication)	**x**
CANopen	option	option	**x**
Pulse input	2 (33 KHz)	1 (33 KHz)	**1 (10 KHz)**
Multi-Motors Switching Control	8	4	**2**
STO	Built-in (SIL2)	Built-in (SIL2)	**Built-in (SIL2), Optional card**
USB	Built-in	Built-in	**x**
Keypad	5-digit LCD (Removable)	5-digit LED (Removable)	**4-digit LED (Fixed)**
EMC Filter	Built-in C2 (1-phase, 230V & 3-phase, 460V)	Built-in C2 (1-phase, 230V & 3-phase, 460V)	**Built-in C2: 1-phase, 230V C3: 3-phase, 460V**

ME300 Summary

Control Performance
IM / IPM / SPM
V/F / SVC
200% Starting Torque

Functions
Extension Accessories
Pulse & PWM Input

User-friendly
Application Parameter Group
Spring Type Terminal

Compact Design
40-60% Volume Saving
Built-in Braking Chopper
Side-by-side Installation

Long Lifespan
100% PCB Coating 3C2
Durable Component

Standards
Safety Torque Off (STO) SIL2
UL / CE / Reach / RoHS
Built-in (C2) EMC Filter

Smarter. Greener. Together.

To learn more about Delta, please visit www.deltaww.com
or scan the QR code

English

Traditional Chinese

Simplified Chinese