

ESTUN



EDB / EDC

200W 300W 400W 500W 600W 700W 800W 1000W 1200W 1500W 2000W 2500W 3000W 4000W 5000W 6000W 8000W 10000W

All Digital AC Servo

As a national support prior AC servo system research, development and production base, Estun Automation is devoted to R&D, manufacturing and sales of high-end products in the realm of motion control. We are holding completely with self-owned IPR technology of our AC servo systems which can be applied in CNC machine, textile machine, packing machine, printing machine, wood-working machine and robotization production line, etc., Now, Estun has established long-term strategy cooperation with many prestigious machine manufacturers and become their first cooperation option for motion control products home and abroad.

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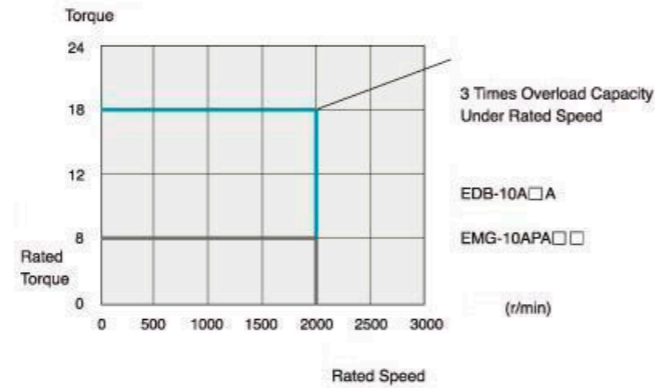


EDB/EDC

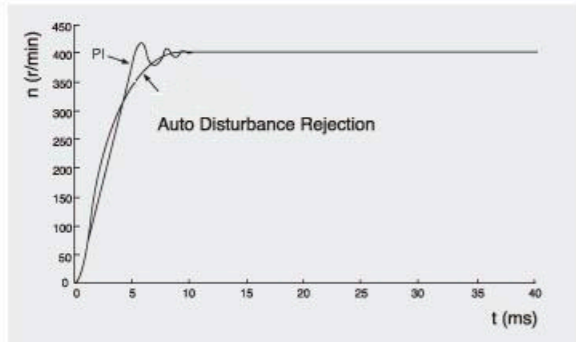
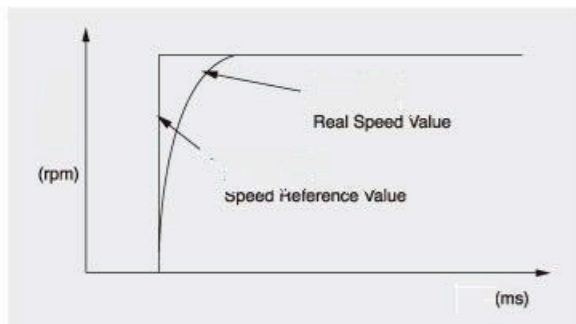
All Digital AC Servo

High Overload Capacity

The industrial grade intelligent power modules (IPM) utilized in EDB/EDC servo drives are one step higher in capacity than the like servo products generally specified as the same power, therefore, they have stronger overload capacity, higher disturbance rejection capacity, and larger startup torques. The servo drives assure 3 times overload capacity for types below 1.5KW, and generally 2.5 times above 2KW.



High level



The most updated high speed DSP is used to meet the control requirements of high speed, high precision servo. With its auto disturbance rejection control and speed observation control algorithm, combined with compensation servo delay's forward feed control, reference smoothing technique, the servo drives have much better dynamic features and stabilities than those with conventional PI control. Servo's real fast response, high precision, high speed and high stability are realized. In addition, being equipped with automatic inertia identification, it makes adjustment operations easier.

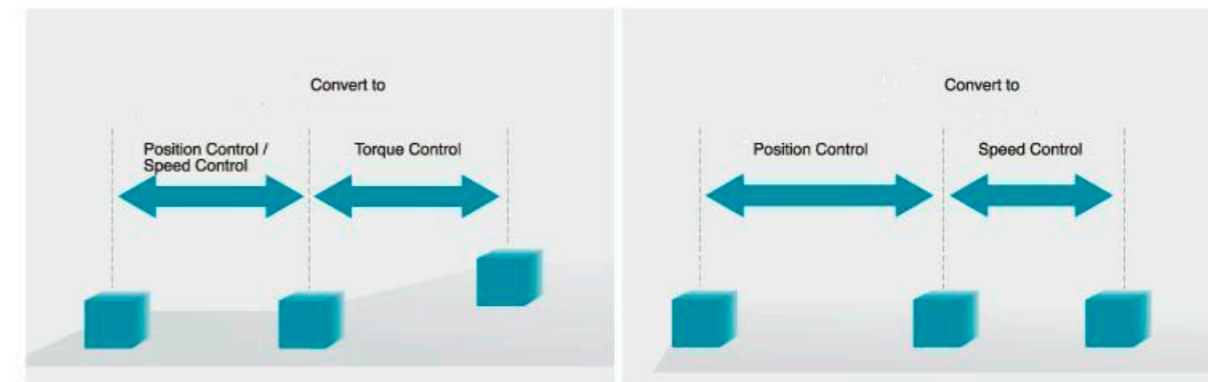
Communication Interface

Standard CAN bus interfaces are available in EDC servos, which makes it easy to get integrated into a distributed control system. Based on Modbus protocols of RS485 or RS232 interfaces, the host can be connected up to 32 servos for network control & the transmission distance can reach 1200 meter in maximum (if RS485 interface be used). Besides, the host can also communicate with PLC, DCS, intelligent instruments, touch screens, etc., and the centralized monitoring is implemented.



Flexibility

Position control, speed control and torque control are combined all in one in EDB servo drives. It's available to switch dynamically among different control modes and operation is more convenient and flexible.

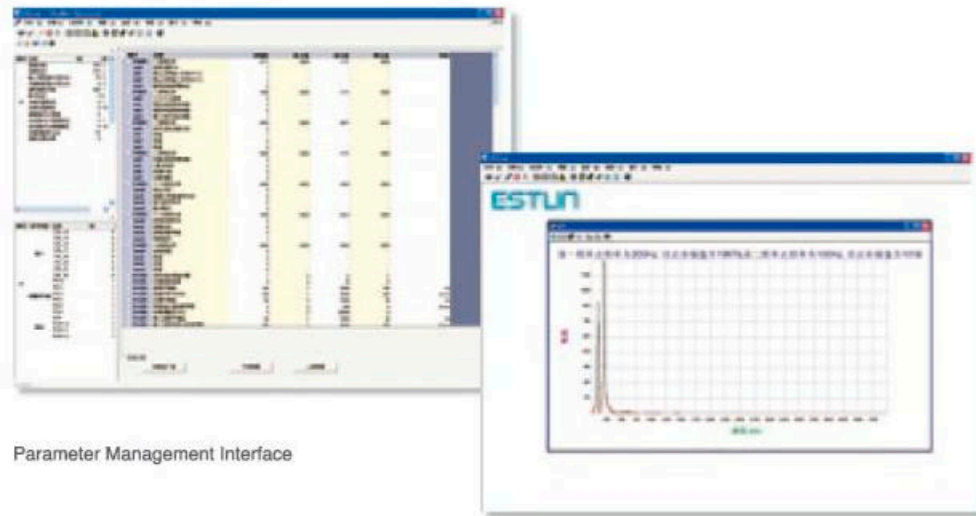


ESView Communication Software

With special PC softwares available, following functions are achieved:

- Parameter management
Fast and convenient operations to all parameters are available, such as editing, transmission, comparison, and initialization.
- Monitoring
Real time monitoring of all I/O signals, alarms of the present and history record, and system status, etc.
- Real time sampling
Real time sampling the curves of speed and torque facilitates the adjustment and analysis.
- Adjusting
Fast adjustment of gains is available.

Simple test is available when there's no position or speed reference input.



Parameter Management Interface

Sampling Diagram

Single Axis Positioning Function

The 16-node single axis positioning function is built inside the servo drives, and a touch screen can be connected directly to the RS-232 interface on the servo drives, thus the costs go down since an intermediate PLC unit is eliminated. With the touch screen, user may program easily every node's position, speed, acceleration and deceleration time, latency time, start point and stop point, moreover, the above info can be transmitted to the servo drive via RS-232 interface. User may select to program absolute values or incremental values and select cycle run or not. User may also use reference point search function and program the go and back speed for reference point search and in addition, it's also available to use external signals for step changes. Actually users may develop own application programs to meet different demands on different occasions.



EDB/EDC

Series Servo Drive

Features

- Responding performance greatly improved with new functions like current feedforward control, acceleration feedforward control, speed observer and observer, etc.
- Updated with control mode switch function, effectively reduce overshoot and adjustment time by setting appropriate switch function.



Specification Description

EDC - 08

EDC Model Servo Drive

Rated Output Power

Power Voltage

Control Style

Designing Sequence

Sign	Specification	Sign	Specification	Sign	Specification	Sign	Specification
02	200W	A	200VAC	P	Position Control	E	Designing Sequence
04	400W						
08	750W						
10	1000W						

EDB - 10

EDB Model Servo Drive

Rated Output Power

Power Voltage

Control Style

Designing Sequence

Sign	Specification	Sign	Specification	Sign	Specification	Sign	Specification
08	0.75kW	A	200VAC	P	Position Control	A	Designing Sequence
10	1.0kW						
15	1.5kW			M	Speed Control, Torque Control, Position Control		
20	2.0kW						
30	3.0kW						
50	5.0kW						

Model Comparison Table

Series	Servo Motor		Servo Drive		Application
	Power	Model	Single Phase	Three Phase	
Small	EMJ 3000min ⁻¹	200W	EMJ-02APA□□	EDC-02APE	SMM(Surface Mounting Machine) PCB Puncher Machine Robot Arm Handling Machinery Foodstuff Processing Machinery Textile Machinery
		400W	EMJ-04APA□□	EDC-04APE	
		750W	EMJ-08APA□□	EDC-08APE	
		1000W	EMJ-10APA□□	EDC-10APE	
Medium Inertia	EMG 2000min ⁻¹	1.0kW	EMG-10APA□□	EDC-10APE	Machine Tools Handling Machinery Foodstuff Processing Machinery Textile Machinery
		1.5kW	EMG-15APA□□	EDB-15A□A	
		2.0kW	EMG-20APA□□	EDB-20A□A	
		3.0kW	EMG-30APA□□	EDB-30A□A	
		5.0kW	EMG-50APA□□	EDB-50A□A	
Medium	EML 1000min ⁻¹	1.0kW	EML-10APA□□	EDB-10A□A	Machine Tools Handling Machinery Foodstuff Processing Machinery Textile Machinery
		2.0kW	EML-20APA□□	EDB-20A□A	
		3.0kW	EML-30APA□□	EDB-30A□A	
		4.0kW	EML-40APA□□	EDB-50A□A	

Note: Below 1.5KW,EDB series drive can be supplied with both single phase and three phase 180-240V

Table of Cable Models

Servo Drive	Servo Motor	Power Cable Model	Encoder Cable Model	Communication Cable Model	Handheld Operator Model
EDC-02APE	EMJ-02APA□□	CDM-JB18	CMP-JB26	CSC-CC24A	OP-01A
EDC-04APE	EMJ-04APA□□				
EDC-08APE	EMJ-08APA□□				
EDC-10APE	EMJ-10APA□□				
EDC-10APE	EMG-10APA□□	CDM-GA16	CMP-GA26	BSC-CC24A	—
EDB-08A□A	EMJ-08APA□□	BDM-JB18	BMP-JB24		
EDB-10A□A	EMJ-10APA□□	BDM-GA16	BMP-GA24		
EDB-10A□A	EMG-10APA□□				
EDB-15A□A	EMG-15APA□□	BDM-GA14			
EDB-20A□A	EMG-20APA□□	BDM-GA14			
EDB-30A□A	EMG-30APA□□	BDM-GD12			
EDB-50A□A	EMG-50APA□□	BDM-GD12			
EDB-10A□A	EML-10APA□□	BDM-GA16			
EDB-20A□A	EML-20APA□□	BDM-GD14			
EDB-30A□A	EML-30APA□□	BDM-GD12			
EDB-50A□A	EML-40APA□□				

Technical Specification and Model of Servo Drives

Servo Drive Model		EDB Series	EDC Series	
Basic Data	Power Supply	Three Phase AC200V+10-15%, 50/60Hz	Single Phase AC200V+10-15%, 50/60Hz	
	Control Mode	SVPWM	SVPWM	
	Feedback	8 Cores (Wire-saving) Incremental Type Encoder (2500P/R)	8 Cores (Wire-saving) Incremental Type Encoder (2500P/R)	
	Working Condition	Operating/Storage Temperature	0~55°C / -20~85°C	0~55°C / -20~85°C
		Operating/Storage Humidity	Below 90%RH (Non-condensing)	Below 90%RH (Non-condensing)
		Shock/Vibration Resistance	4.9m/s ² / 19.6m/s ²	4.9m/s ² / 19.6m/s ²
	Structure	Base Mounted	Base Mounted	
Speed Control Range	1:5000	1:5000		
Speed Regulation	Load Regulation	0~100%: Below 0.01%(At Rated Speed)	0~100%: Below 0.01%(At Rated Speed)	
	Voltage Regulation	Rated speed ±10%: 0% (At Rated Speed)	Rated Speed ±10%: 0% (At Rated Speed)	
	Temperature Regulation	25±25°C: Below 0.1% (At Rated Speed)	0~40°C: Below 0.1% (At Rated Speed)	
	Frequency Characteristics	250Hz (J _s ≤J _u)	250Hz (J _s ≤J _u)	
	Software Startup Time Setting	0~10s (Set Acceleration and Deceleration Individually)	—	
	Speed Ref. Input	Reference Voltage	±10V DC	—
Input Resistance		40KΩ	—	
Loop Time Constant		47μS	—	
Node Speed Reference	Reference Voltage	±10V DC	—	
	Input Resistance	40KΩ	—	
	Loop Time Constant	47μS	—	
Reference Pulse	Reverse Rotation Direction Selection	Use P-CON Signal	—	
	Speed Selection	Use FWD/REV current limit signal (select speed 1~3), when both not OFF, select Stop or other control mode	—	
	Type	SIGN+PULSE Train, Sin. Pulse Phase A and Phase B, CCW+CW Pulse Train	SIGN+PULSE Train, Sin. Pulse Phase A and Phase B, CCW+CW Pulse Train	
Pulse Buffer	Pulse Buffer	Line Driving (+5V Level) . Open Collector	Line Driving (+5V Level) . Open Collector	
	Pulse Frequency	Maxi.500Kpps (Difference) /200Kpps (Collector)	Maxi.500Kpps (Difference) /200Kpps (Collector)	

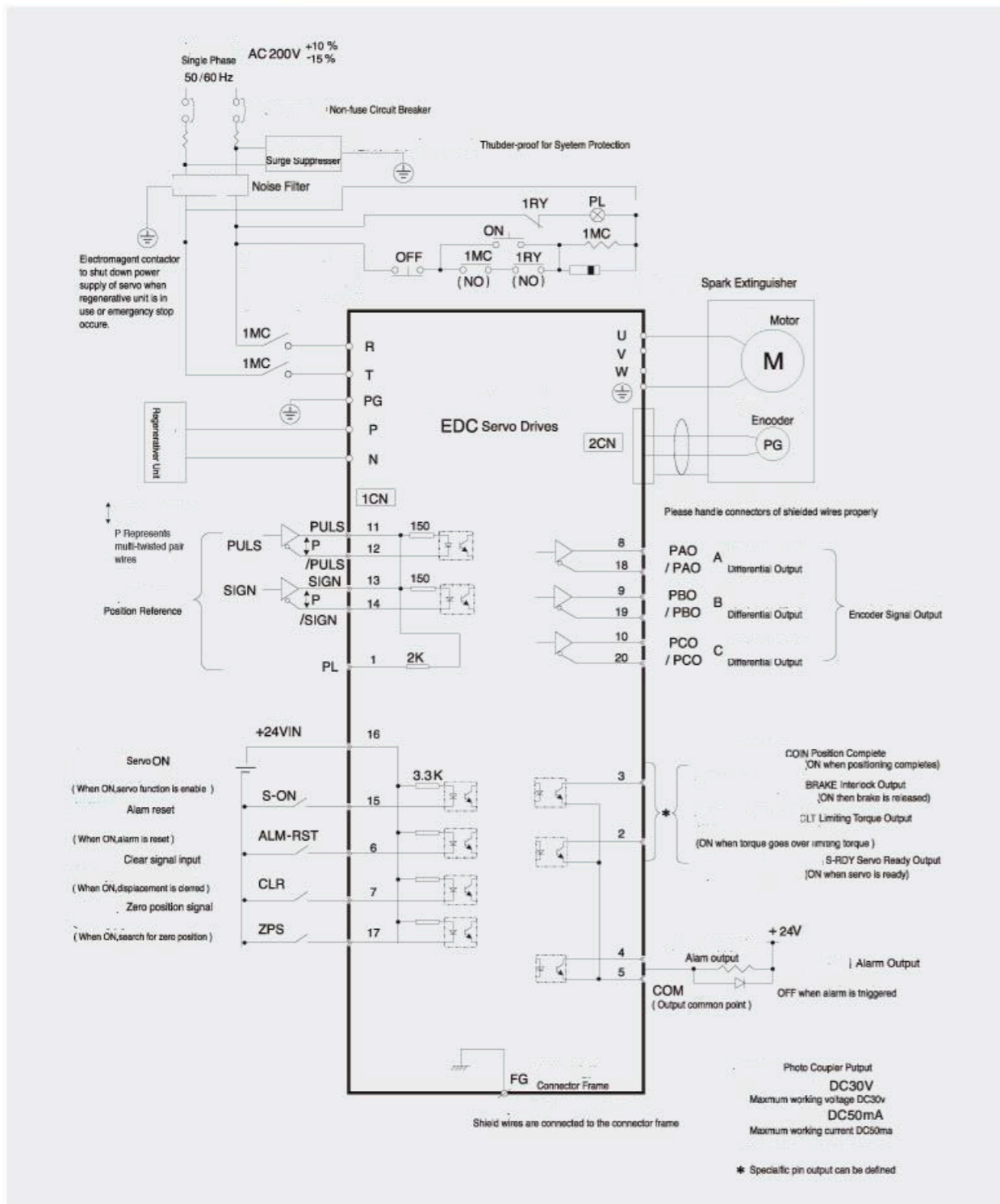
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Servo Drive Model		EDB Series	EDC Series
Position Control Mode	Control Signal	Clr Clear	Clr Clear
	Offset Setting	0~300r/min (Set Resolution as 1r/min)	—
	Feed Forward Compensation	0~100% (Set Resolution as 1%)	—
	In position Error Setting	0~500 Reference Unit (Set resolution as 1 reference unit)	—
Position Output	Output Signal	Phase A, Phase B and Phase C: Line Driving Output	Phase A, Phase B and Phase C: Fine Driving Output
	Dividing Ratio	(1~2500) / 2500	(1~2500) / 2500
I/O Signals	Sequence Control Input	Servo On, Proportional Control or Control Mode Switch, Forward Run Prohibited, Reverse Run Prohibited, Alarm Reset, FWD Torque External Limit, REV Torque External Limit, Zero Clamp Signal	Servo ON, Alarm Reset, Error Counter Clear Signal, Zero Clamp Signal.
	Sequence Control Output	Servo Alarm, Servo Ready, Positioning Complete (Speed Coincidence), Brake Release, Limiting Torque, Motor Run Detection	Servo Alarm, Positioning Complete (Speed Coincidence), Brake Release, Limiting Torque
Built-in Function	COM Function	With RS232 interface for communication with host controller's special software, parameter setting, run operation and status display can be done in Windows mode. Compatible with Modbus com protocol and CANopen protocol.	With RS232 interface for communication with host controller's special software, parameter setting, run operation and status display can be done in Windows mode. Compatible with Modbus com protocol and CANopen protocol.
	LED Display	Charge, Power, Five 7-segment LEDs and 4 Pushbuttons (Digital Operation Panel)	Charge Indicator, Power&ALM Indicator, Five 7 Segment Tube (On Handheld Operator)
	Braking	Dynamic Brake, Overtravel Protection	Dynamic Brake
	Protection	Overcurrent, Overload, Overspeed, Under Voltage, Overvoltage, Encoder Error, Parameter Error	IPM Power Module Error, Overload, Overspeed, Voltage Error, Position Error Counter Overflow, Encoder Disconnected, Parameter Damaged, etc.
	Regenerative Treatment Function	Built in Regenerative Resistance	—
Other	Zero Clamp (With 16 Internal Position Nodes)	—	

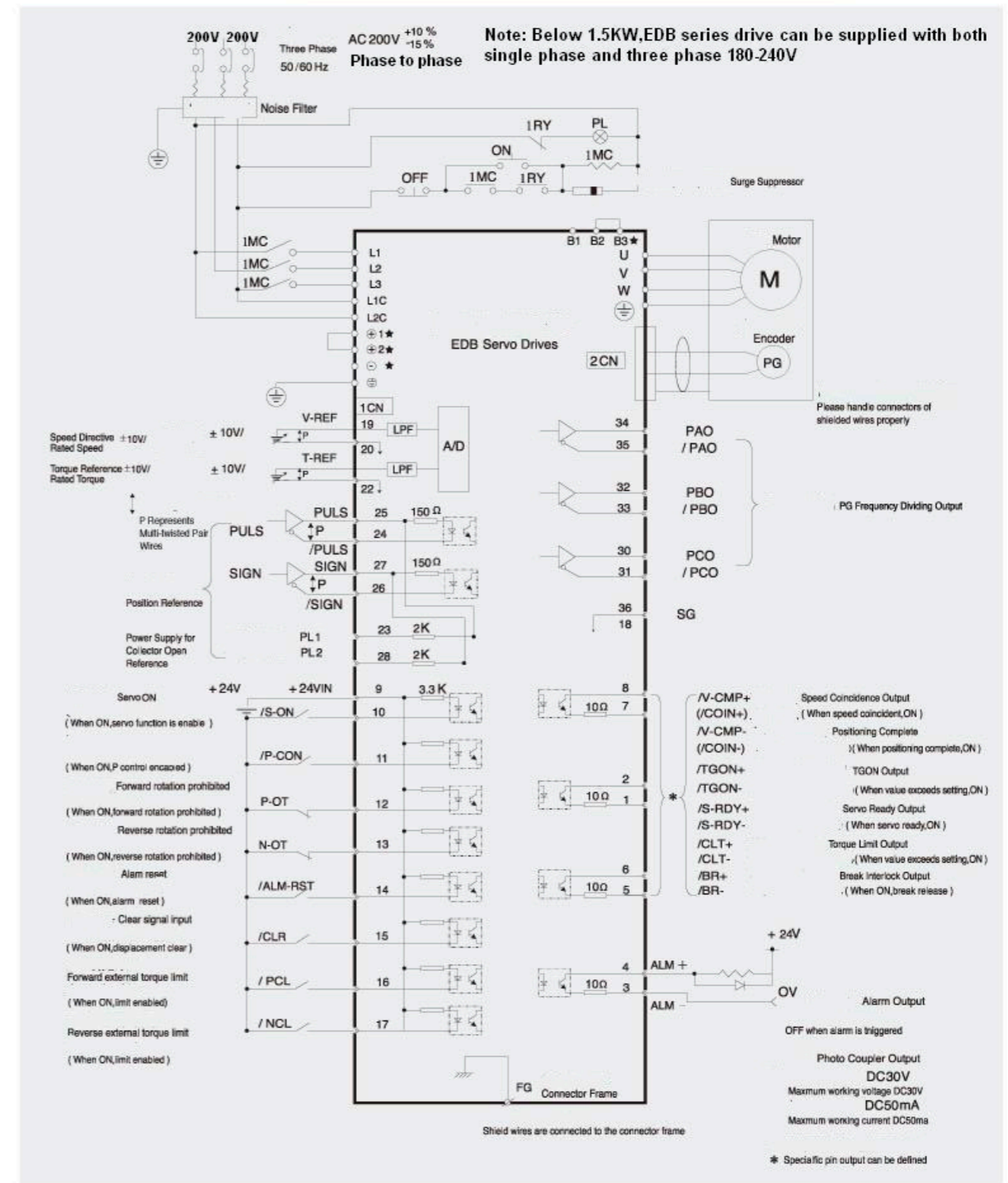
EDB/EDC

Typical Connection Example

Typical Connection Example of EDC Servo



Typical Connection Example of EDB Servo



Notes: EDB-08/10/15, there are no terminals: B3, ⊕1, ⊕2, ⊖, no need of any connection.