TSTA SERIES

SPECIFICATION

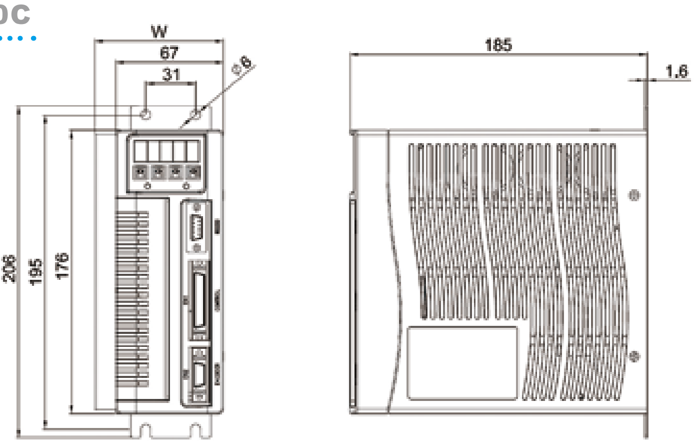
Servo Pack Model			TSTA15C	TSTA20C	TSTA30C	TSTA50D	TSTA75D	TSTA100D	TSTA150D	TSTA200D	TSTA300D
Applicable Servo Motors			TSB07301	TSB0B751	TSB13102	TSB13202	TSB13302	TSC18452	TSC18562	TSA18752	TSA22113
			TSC04101	TSB13551	TSC08751	TSB13152	TSA18302	TSA18442	TSA18552	—	TSA22153
			TSC06401	TSB08751	—	—	—	—	—	—	—
Basic Specifications	Max. Applicable Servo Motor Capacity [KW]		0.4	0.8	1.0	2.0	3.0	4.5	5.6	7.5	15.0
	Continuous Output Current [A rms]		3.5	4.4	5.16	9.5	14.0	23.0	33.2	42.1	78.0
	Max. Output Current [A rms]		10.5	13.2	15.5	28.5	42.0	59.8	86.3	109.5	170.0
	Input Power Supply	Main Circuit R、S、T	Single-phase / Three-phase 170 ~ 253Vac			Three-phase 170 ~ 253Vac					
			50 / 60Hz ±5%								
		Control Circuit r、s	Single-phase 170 ~ 253Vac								
			50 / 60Hz ±5%								
	Cooling System		Natural Air Circulation			Fan Cooling					
	Control Method		Three-phase full-wave rectification IGBT-PWM (sine-wave driven)								
	Feedback[Encoder Resolution]		Incremental Encoder：2000ppr / 2500ppr / 8192ppr								
Internal Functions	LED Display		Charge / Power lamps；Five 7-segment LEDs；Four function keys								
	Control Mode		Postion (External or Internal)、Speed、Torque and Dual control mode (P/S、S/T、P/T)								
	Regenerative Discharge		Built-in braking transistor and resistor (External braking resistor connectable)							Built-in braking transistor (External braking resistor connectable)	
	Dynamic Brake		Active after Power-off、Servo-off、Limit switch and Protective function								
	Protective Functions		Under voltage、Over voltage、Over load、Over current、Encoder error、Abnormal DI/DO programming、Memory abnormal、Emergency stop、Pulse deviation value 、Over speed、CPU abnormal、Limit switch error、Over heat								
	Communication Interface		RS-232 / RS-485 (Modbus protocol)								
Position Control Mode	Command Source		External pulse train / Internal parameters (16 programmable position settings)								
	Input Signals	Type	Positive/Negative edge triggered ：Sign + Pulse train、CCW + CW pulse train、90° phase difference 2-phase pulse (phase A + phase B)								
		Form	Line Driver (+5V level)、Open Collector (+5 ~ +24V level)								
		Frequency	Maximum 500 / 200 kpps (line driver/open collector)								
	Electronic Gear Ratio		1/200 ≦ A/B ≦ 200 (A=1 ~ 50000；B=1 ~ 50000)								
	Position Time Constant		Smoothing：0 ~ 10sec								
	Final Position Tolerance		0 ~ 50000 Pulse								
	Feed Forward Compensation		0 ~ 100 %								
	Homing Function		Set by parameters								

SPECIFICATION

Speed Control Mode	Command Source		External analog signal / Internal parameters (3 speeds set-up)
	Analog Input Signals	Voltage Range	0 ~ ±10Vdc / 0 ~ 4500rpm (set by parameters)
		Impedance	10KΩ
	Speed Control Range		1 : 5000 (Internal) / 1 : 2000 (External)
	Speed Fluctuation Rate		0.03% or less at load fluctuation 0 ~ 100% (at rated speed)
			0.2% or less at power fluctuation ±10% (at rated speed)
			0.5% or less at ambient temperature fluctuation 0 ~ 50℃ (at rated speed)
	Accel./Decel. Time Constant		Linear : 0 ~ 50sec ; S curve : 0 ~ 5sec ; Smoothing : 0 ~ 10sec
	Frequency Characteristics		Maximum 400Hz (at JL=JM)
	Torque Limit Operation		External analog signal / Internal parameters
	Zero Speed / Speed Reach Range		0 ~ 4500rpm (set by parameters)
Torque Control Mode	Command Source		External analog signal
	Analog Input Signals	Voltage Range	0 ~ ±10Vdc / 0 ~ ±300%
		Impedance	10KΩ
	Accel./Decel. Time Constant		Linear : 0 ~ 50sec
	Speed Limit Operation		External analog signal / Internal parameters
	Torque Reach Range		0 ~ 300% (set by parameters)
Input/Output Signals	Position Output	Form	Phase A、B、Z Line Driver / Phase Z Open Collector
		Frequency Dividing Ratio	1 ~ 8192 (Rotation resolution) any arbitray value
	Digital Input [NPN/PNP]	13 ports Signal allocation can be modified.	Servo on、Alarm reset、P/PI switching、Forward/Reverse limit switch、External torque limit、Pulse deviation clear、Servo lock、Emergency stop、Speed command selection、Control mode switching、Pulse command inhibit、Gain switching、Electronic gear ratio setting、Internal pulse command trigger、Internal pulse command pause、Homing mode positioning、External reference signal、Internal position command switching、Speed/Torque command reverse、Torque mode forward/reverse start
	Digital Output [Photocoupler]	4 ports Fixed Output	Servo alarm code、Torque limit、Limit switch、Base block
		4 ports Signal allocation can be modified.	Servo ready、Servo alarm、Zero speed、Brake interlock、Speed reach、Positioning completed、Homing completed、Torque reach
	Analog Monitor Output	2 ports Signal allocation can be modified.	Speed feedback、Torque / Speed / Position command、Pulse deviation value、electrical angel、Main circuit voltage (Vdc Bus)
Environment	Installation Site		Indoor location (avoiding direct sunshine) No corrosive liquid and gas (avoiding oil mist、flammable gas、dust)
	Altitude		Altitude 1000M or lower above sea level
	Temperature		Operating temperature : 0 ~ 50℃ ; Storage temperature : -20 ~ +85℃
	Humidity		90%RH or less (with no condensation)
	Vibration		10 ~ 57Hz : 20m/s^2 ; 57 ~ 150Hz : 2G

DIMENSION

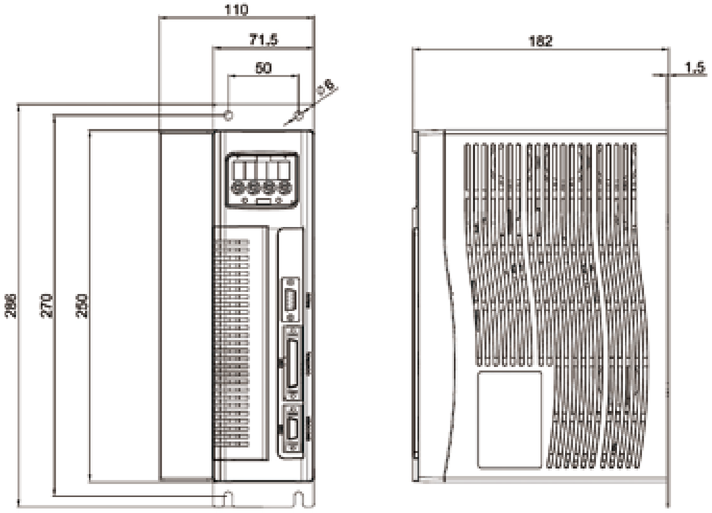
TSTA15C/20C/30C



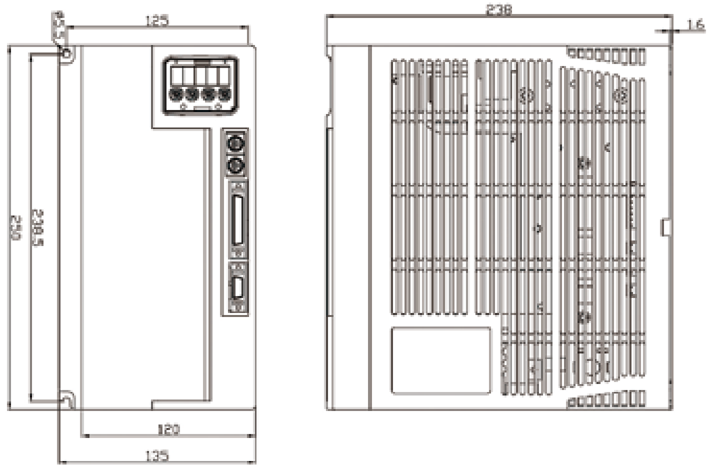
	W
TSTA15C/20C	69
TSTA30C	80

DIMENSION

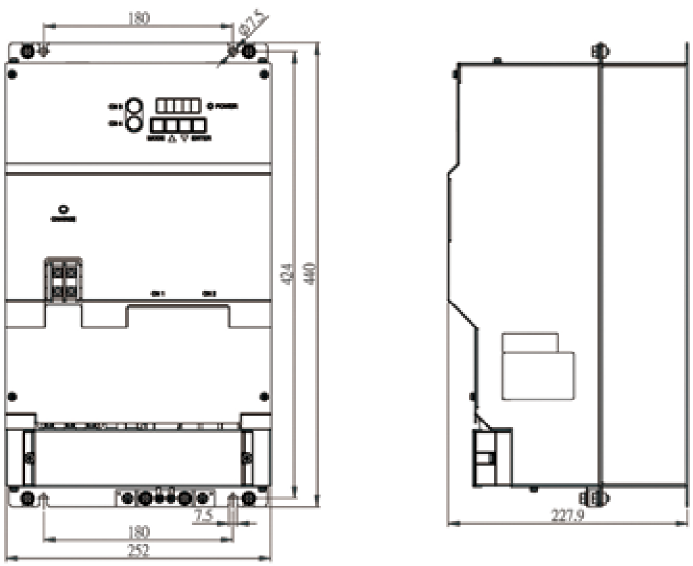
TSTA50D/75D/100D



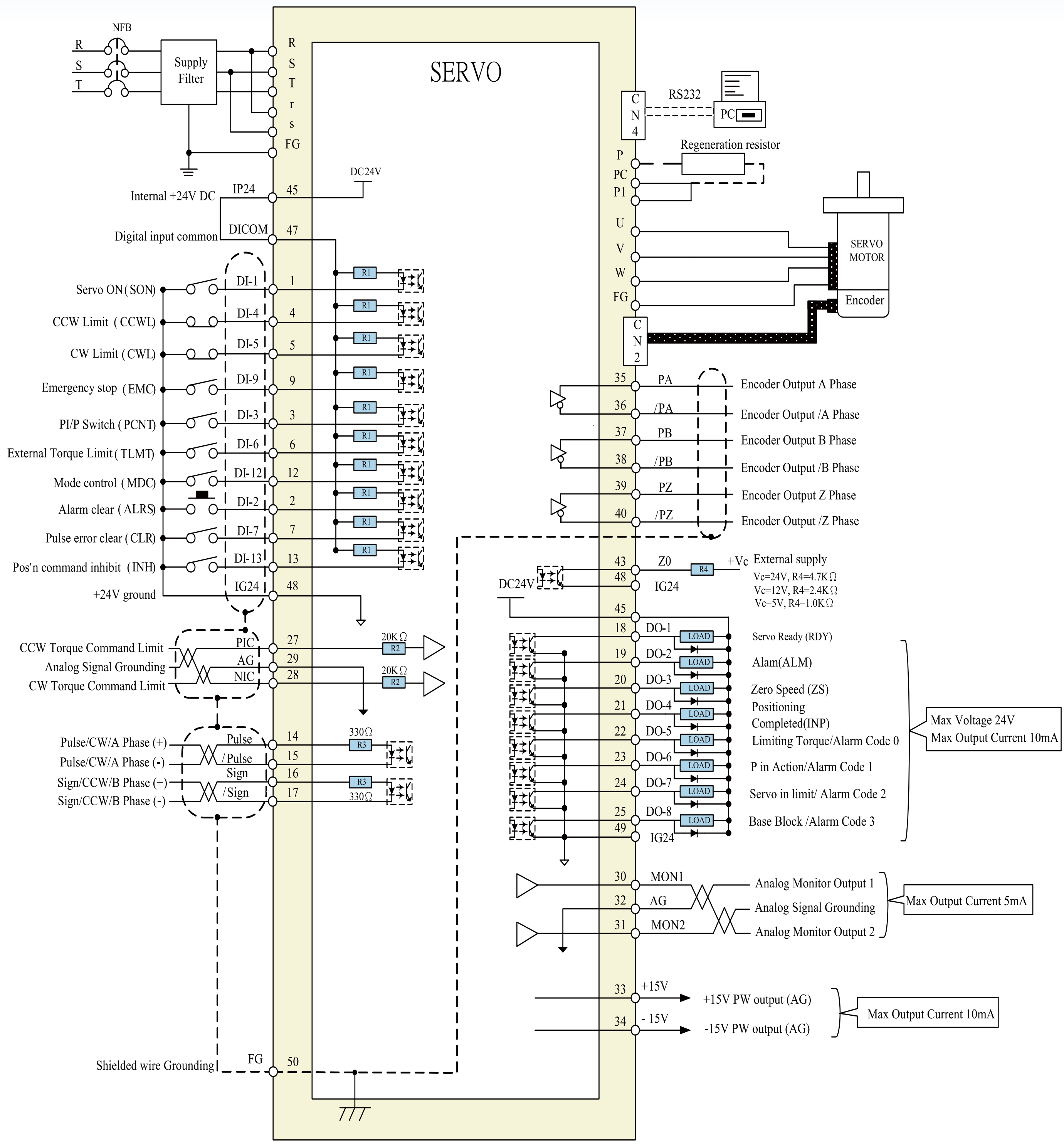
TSTA150D



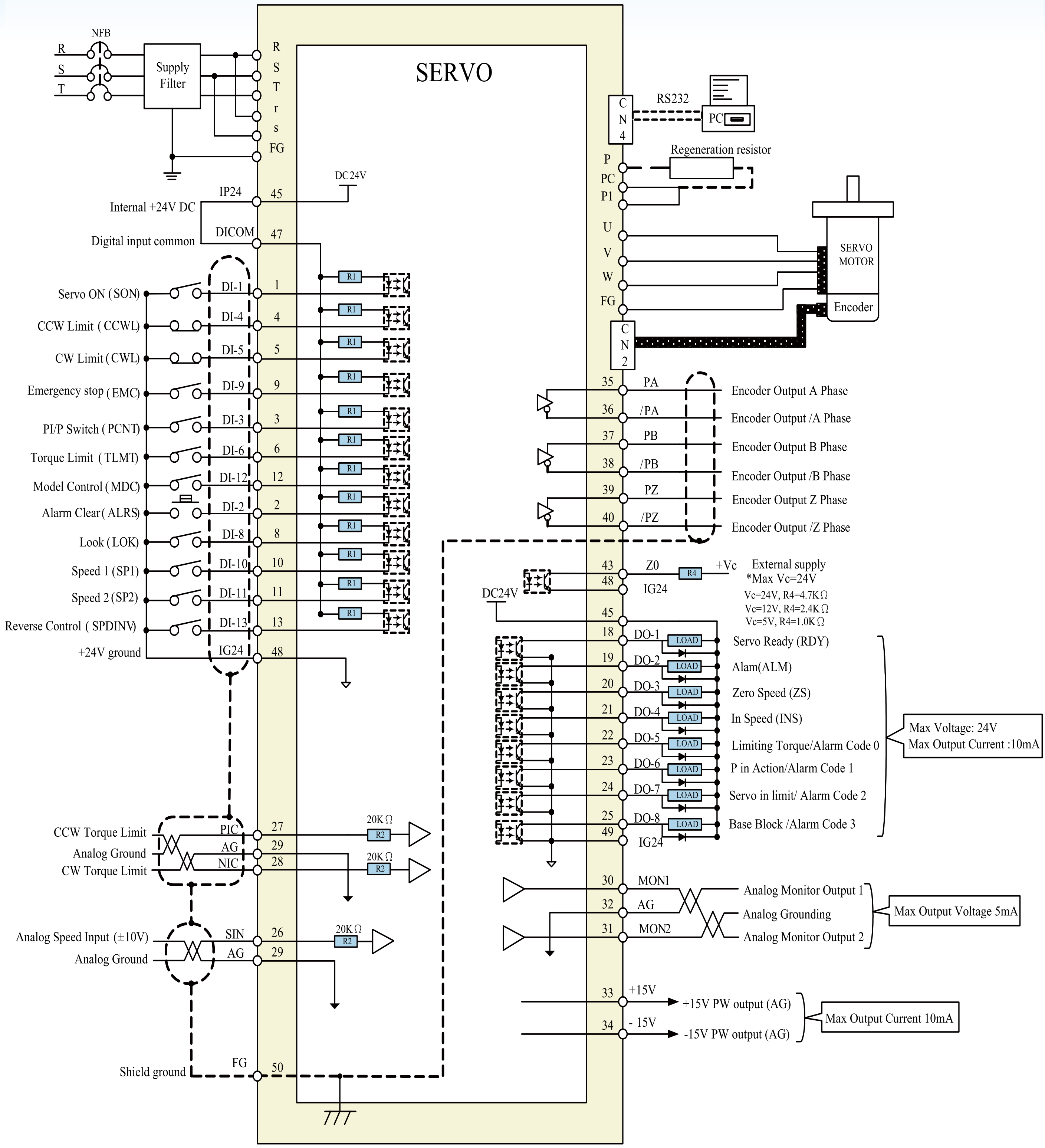
TSTA200D/300D



POSITION CONTROL MODE — (PE MODE) (LINE DRIVER)



SPEED CONTROL MODE—(S MODE)



TORQUE CONTROL MODE — (T MODE)