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SD20
Servo Drives



EURA DRIVES

EURA DRIVES Electric Co., Ltd.는 중국 최초의 하이테크 기업 중 하나로, AC 모터 인버터 기술의 연구 및 개발에 전문화된 선도적인 기업입니다. 당사의 제품 포트폴리오는 인버터, 서보 시스템, 소프트 스타터, HMI 및 PLC를 포함한 산업용 전기 전송 및 자동화 솔루션과 신에너지 제품들로 구성되며, 이는 다양한 산업 분야—산업용 로봇, 공작 기계, 섬유, 포장, 인쇄, 플라스틱, 제지, 제약, 석유화학, 광업, 엘리베이터, 리프팅 장비, 케이블, 세라믹, 빌딩 자동화, 팬 및 펌프, 신재생 에너지 등—에서 광범위하게 적용되고 있습니다.

EURA DRIVES는 100명 이상의 숙련된 기술 R&D 엔지니어를 보유하고 있으며, 세계 유수의 대학 및 연구 기관들과 협력하여 산업용 전기 구동 시스템 및 자동화 기술, 그리고 신재생 에너지 솔루션의 혁신적 발전을 추구하고 있습니다. 또한, 회사는 글로벌 시장을 대상으로 한 기술 지원을 제공하며, 유럽, 남미, 동남아시아, 중동, 아프리카 등 42개 국가 및 지역에 제품을 수출하고 있으며, 현지 판매 및 서비스 네트워크를 통해 고객에게 최적화된 솔루션을 제공합니다.

20년 이상의 기술 혁신과 시장 경험을 바탕으로, EURA DRIVES는 고객들에게 신뢰할 수 있는 파트너로 자리잡았습니다. 향후에도 당사는 "지능형 제어, 에너지 절약, 저탄소 및 고효율"을 핵심 가치로 삼아 지속 가능한 발전을 추구하고, 혁신적인 기술을 통해 산업용 전기 구동 및 자동화 분야에서 글로벌 선도 기업으로서의 입지를 더욱 확립해 나갈 것입니다.



SD20-G/GA

SD20-G/GA 시리즈는 고성능 범용 서보 드라이브입니다. Carrier frequency 16kHz, current loop sampling rate 320K, speed loop sampling 16kHz, position loop sampling 16kHz, speed loop bandwidth 3kHz, full closed loop, multi-stage position, gain switching, interrupt fixed length, electronic cam 등의 기능을 지원하며, 다양한 응용 application에 적합합니다. SD20-G/GA 시리즈는 내부 PLC 기능도 통합하여 코드를 통해 간단한 프로그래밍을 수행하여 보다 특별한 경우의 요구를 충족할 수 있습니다.

SD20-E

SD20-E 시리즈는 버스 타입의 서보 드라이브로 EtherCAT, Profinet, CANopen을 지원합니다. Frequency response가 3.2kHz 이고 디버깅이 간단하고 편리하여 더 쉽고 빠르게 사용할 수 있습니다. EtherCAT은 PV, PP, PT, HM, CSP, CSV, CST 및 Touch Probe 기능을 지원하고, CANopen은 PV, PP, PT, HM, IP를 지원합니다. 기능이 강력하고 SD20-G/GA 설치 크기와 호환되며 동일한 전원을 가진 SD20-G/GA 모델로 교체할 수 있습니다. EtherCAT 통신은 CoE 프로토콜을 지원합니다.



Fast & Convenient

- ◆ 응답 주파수 3.2kHz (SD20-E), 3.0kHz (SD20-G/GA)
- ◆ Dual-core processor
- ◆ 23-bit 애플루트 엔코더
- ◆ 편리한 배선을 위한 DB 시리즈 플러그
- ◆ 노치 필터 설정으로 관성 학습을 통한 간편한 디버깅

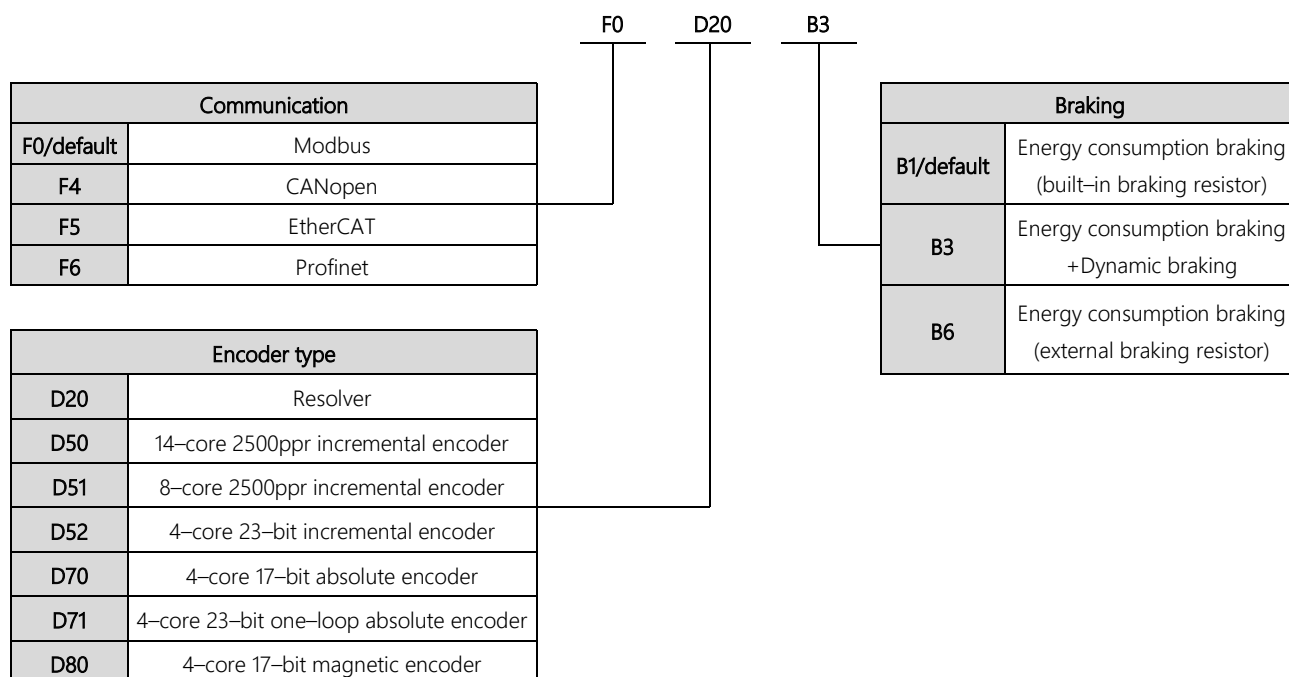
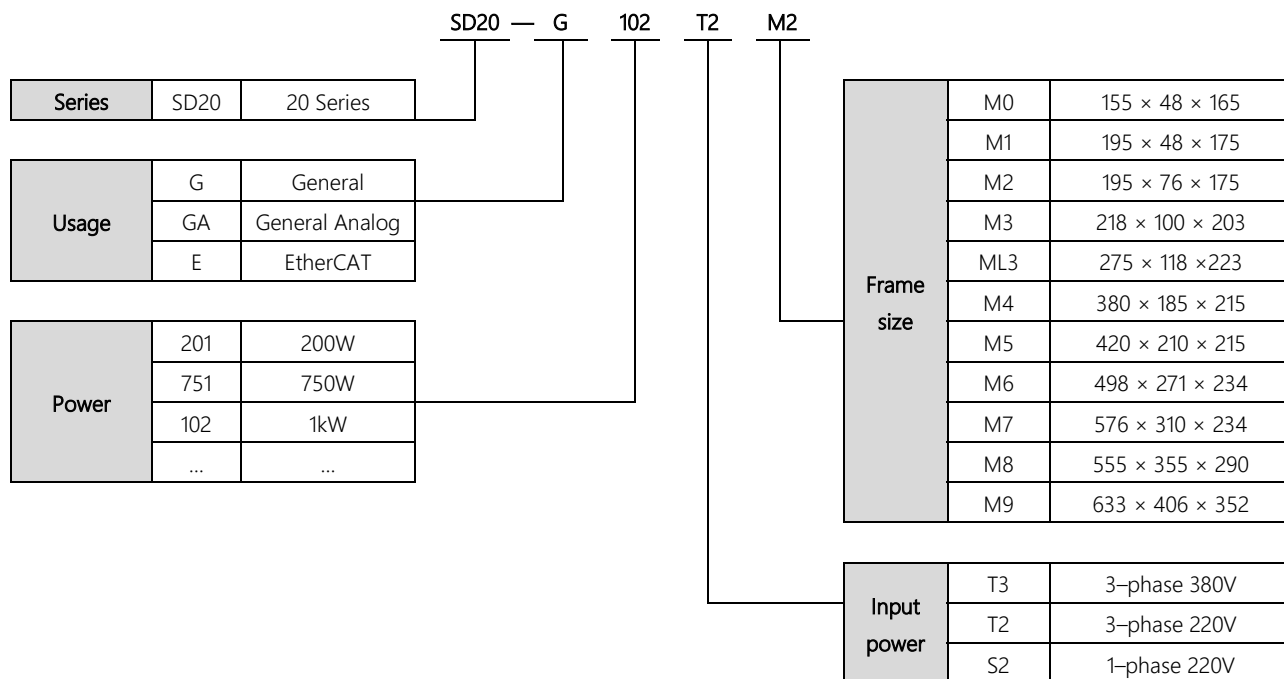
Practical

- ◆ Full closed-loop control
- ◆ Gantry synchronization function
- ◆ Interrupted position control
- ◆ Gain switching
- ◆ Multi-segment position control

Powerful

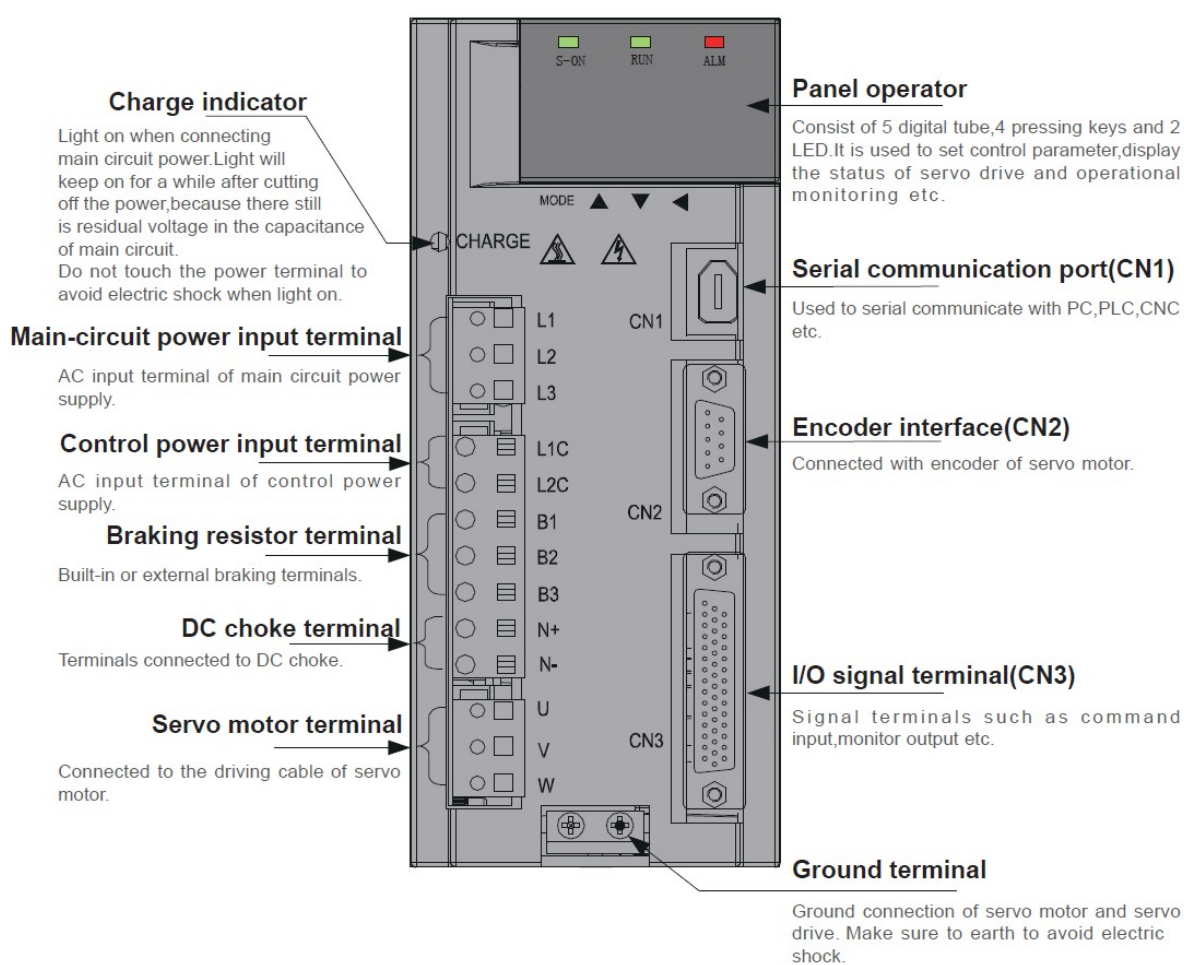
- ◆ 입력 명령 주파수 최대 4MHz
- ◆ 내장형 고속 DI 채널
- ◆ 내장형 PLC, Electronic CAM 기능
- ◆ 여러 유형의 엔코더 지원

SD20 Servo Drive



SD20 Servo Drive

Drive Components



Technical Characteristics

SD20-G(A) 서보 드라이브 기술사양

Items		Contents
Power supply	S2/T2 series	220VAC -15 ~ +10% 50/60Hz
	T3 series	380 ~ 440VAC -15 ~ +10% 50/60Hz
Control mode		Pt: Position pulse mode Pr: Internal register position mode Sz: Analog speed mode Sr: Internal register speed mode Tz: Analog torque mode Tr: Internal register torque mode
Brake		Built-in or External (External braking should be selected and purchased) M1 model: No built-in braking resistor 7.5kW and above: No built-in braking resistor Others: Built-in braking resistor
Control characteristics	Control mode	PMSM
	Frequency response	3.0kHz
	Speed fluctuation	±0.01% (VC, load fluctuation 0 to 100%)
	Speed control range	1 : 10000
	Input pulse frequency	500kHz (differential drive); 200kHz (Open collector) At high-speed pulse circuit, receiving frequency is 4MHz (differential).
Input signal	Control input	Servo on, Alarm reset, Pulse clear, Pulse prohibited, Forward run prohibited, Reverse run prohibited, Forward torque limit, Reverse torque limit, Internal speed selection, Internal position triggered, "Home" searching triggered, Zero speed clamp
	Speed Feedback	1. Absolute encoder 2. Incremental encoder 3. Resolver 4. BiSS C encoder 5. Magnetic encoder 6. Hiperface encoder
Output signal	Control output	Servo ready, Servo alarm activated, At positioning completed, At speed reached, Electromagnetic brake control, Rotation Detection, At speed limit, Homing completed, At torque limit, etc.
	Encoder signal frequency-division output	Encoder Z phase open-collector output Encoder signal output (A, B Z Line Driver) frequency-division output Z pulse time extend function
Position control	Input mode	1. A phase + B phase 2. Forward pulse + Reverse pulse 3. Pulse + Direction 4. Internal register
	Electronic gear	0.01 ≤ B / A ≤ 100 Two groups of electronic gear can be selected by users.
Analog speed control		-10V ~ +10V analog speed signal input, the voltage scope can be set by function code.
Analog torque control		-10V ~ +10V analog torque signal input, the voltage scope can be set by function code.
Acceleration/Deceleration		Accel/decel time is set to 1 ~ 30000ms (related to 0 ← → rated speed)
Communication		RS485 communication port is connected to PC to set control parameters and to monitor servo.
Parameters setting	Keypad	The parameters are set by keypad, which is displayed by 5 LEDs.
	PC/PLC	RS485 communication can set parameters by some PC/PLC software.
Monitor function		Output current, PN voltage, motor speed, motor feedback pulse, motor feedback rotation, given pulse, given pulse error, given speed, given torque, analog speed given, analog torque given.
Protection function		Overvoltage, Undervoltage, Overload, Overcurrent, Encoder error, Overspeed, Abnormal pulse control command, Emergency stop, Servo overheat, Input power phase loss, Regeneration error, Overposition.
Applicable load inertia		Lower than 5 times of servo motor inertia

Technical Characteristics

SD20-E 서보 드라이브 기술사양

Item		Content
Input power supply	S2/T2	220VAC -15~+10% 50/60Hz
	T3	380V~440V -15~+10% 50/60Hz
Control mode		Profile position control mode (PP) Profile velocity mode (PV) Profile torque mode (PT) Homing mode (HM) Cycle synchronous position mode (CSP) Cycle synchronous velocity mode (CSV) Cycle synchronous torque mode (CST)
Brake		Built-in or External (External braking should be selected and purchased) M1 model: No built-in braking resistor 7.5kW and above: No built-in braking resistor Others: Built-in braking resistor
Control mode	Control type	PMSM motor
	Response frequency	PMSM servo: 3.2kHz
	Baud rate	±0.01% (load 0~100%)
	Speed fluctuation	PMSM: ±0.01% (VC, load fluctuation 0 to 100%)
	Speed ratio	1: 10000
EtherCAT specification	Communication protocol	EtherCAT protocol
	Support service	CoE (PDO, SDO)
	Synchronous method	DC distributed clock
	Physical layer	100BASE-TX
	Transmission speed	100 Mbit/s (100Base-TX)
	Duplex mode	Full duplex
	Transmission media	CAT5E class and above shielded cable
	Transmission distance	Distance between 2 nodes < 100m (good surroundings and cables)
	Slave station	Max 65535 (Lower than 100 in practical use)
	Synchronization jitter	1us
CANopen specification	Link layer protocol	CAN bus
	CAN-ID type	11 bit-CAN 2.0A(standard frame)
	Synchronization method	Software synchronization
	Baud rate	500kbit(default) 1Mbit/s, 800kbit/s, 250kbit/s, 125kbit/s, 100kbit/s, 50kbit/s, 20kbit/s
	CAN frame length	0~8 bytes
	Application layer CAN frame type	Data frame, remote frame
	Terminal match resistor	120Ω
	Max number of sites	63
	Support sub-protocol	CiA-301 V4.02 CANopen application layer and communication protocol CiA Draft Standard Proposal 402 V2.0: drive and motion control sub-protocol
	Transmission distance	Distance between 2 nodes < 100m (good surroundings and cables)
Input signal	Control input	Servo enabled, alarm reset, command pulse clear, command pulse prohibited, forward prohibited, reverse prohibited, forward torque limit, reverse torque limit, internal speed selection, internal position triggered, origin/mechanical origin searching triggered, zero speed clamp, probe etc.
	Encoder	1. Absolute encoder 2. Incremental encoder 3. Resolver 4. BiSS C encoder 5. Magnetic encoder 6. Hiperface encoder

SD20 Servo Drive

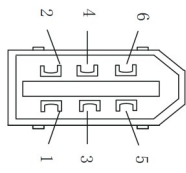
Item		Content
Output signal	Control output	Servo ready, servo alarm, positioning reach, speed reach, electromagnetic brake output, rotation detection, speed limit, homing complete, torque limit etc.
	Encoder signal frequency dividing output	1. Encoder Z phases open-collector output; 2. Phase -A, -B: frequency-division differential output (not isolated, any frequency -division ratio) Phase-Z is not frequency-division output. 3. Z pulse time extended function.
Position control	Input mode	CANopen communication set, EtherCAT communication set, internal register.
	Electronic gear ratio	1. $0.01 \leq B / A \leq 100$ 2. Support 2 groups of electronic gear, which can be selected or switchover by users.
Acceleration/Deceleration		The setting range of accel/decel time is 1~30000ms (from 0 accelerated to rated speed)
Communication		1.RS485/RS232 communication port is connected with PC, to set control parameters and to monitor servo. 2.Support EtherCAT bus. 3.Support CANopen bus.
Parameter setting	Keypad	Use 4 keys to set parameter, which is displayed by 5 LEDs.
	PC/PLC	PC/PLC software can be used to set servo parameter through RS485 communication interface.
Monitor function		Output current, PN voltage, motor speed, motor feedback pulse, motor feedback revolution, given pulse, given pulse error, given speed, given torque etc.
Protection function		Main circuit overvoltage, undervoltage, overload, overcurrent, encoder error, overspeed, abnormal pulse control command, emergency stop, servo overheat, main-circuit power phase-loss, regeneration brake error, position, over position control, lithium battery alarm, sync. loss, network initialization failure, sync. cycle setting error, sync. cycle excessive error, etc.
Applicable load inertia		Lower than 5 times of servo motor inertia.

Performance

Control mode		Specification	
Speed mode	Soft start	0 ~ 30s (Acceleration time and deceleration time can be set)	
	Internal register speed	3 kinds of speed are combined by SD-S1 and SD-S2, the running direction is controlled by SD-DIR (positive/negative logic is set by function code).	
Position mode	Specification	Feedforward compensation	0 ~ 100% (resolution is 1%)
		Positional accuracy	1 command unit
	Input signal	Pulse form	Select one from "direction +pulse" or "90° phase difference orthogonal pulse", or "forward pulse + reverse pulse".
		Input form	Differential input, open-collector input.
		Input pulse frequency	Differential chip input, the max frequency is 4MHz.
		Electronic gear	$0.01 \leq B/A \leq 100$
	Output signal	Output form	A phase, B phase, Z phase: differential driver output Z phase open collector output.
		Frequency-division ratio	A, B phase frequency-division output except Z phase.
	Control signal	Pulse command clear	Bias pulse can be cleared by external signal.
	Built-in power	+24V (100mA)	

Terminal Details

CN1 단자 정의

	Terminal No.	Name	Definition
	CN2- 6	VCC	+5V power output
	CN2- 2	PS	PG serial signal
	CN2- 1	/PS	PG serial signal
	CN2- 5	GND	Grounding
	Shell	HOUSING	Shielding layer

참고: M0 구조 모델에만 적용 가능

CN2 단자 정의

Absolute / Incremental Encoder (D52)			Resolver (D20)		
Terminal	Name	Definition	Terminal	Name	Definition
CN2-1	NC	No connection	CN2-1	RE2	Resolver signal stimulus
CN2-2	VCC	+5V power	CN2-2	VCC	+5V power output
CN2-3	PS	PG serial signal	CN2-3	KTY	Motor temperature sensor
CN2-4	/PS	PG serial signal	CN2-4	NC	No connection
CN2-5	GND	Grounding	CN2-5	RE1	Resolver signal stimulus
CN2-6			CN2-6	COS-	Resolver differential signal
CN2-7	NC	No connection	CN2-7	COS+	Resolver differential signal
CN2-8			CN2-8	SIN-	Resolver differential signal
CN2-9			CN2-9	SIN+	Resolver differential signal
Shell	HOUSING	Shielding layer	Shell	HOUSING	Shielding layer

그림: 드라이브 포트 정면 기준

Incremental Encoder (D50)		
Terminal No.	Name	Definition
CN2-1	V	Encoder V phase input
CN2-2	U	Encoder U phase input
CN2-3	Z	Encoder Z phase input
CN2-4	B	Encoder B phase input
CN2-5	A	Encoder A phase input
CN2-6	/V	Encoder /V phase input
CN2-7	/U	Encoder /U phase input
CN2-8	/Z	Encoder /Z phase input
CN2-9	/B	Encoder /B phase input
CN2-10	/A	Encoder /A phase input
CN2-11	/W	Encoder /W phase input
CN2-12	W	Encoder W phase input
CN2-13	VCC	+5V power
CN2-14	GND	Grounding
CN2-15	—	—

그림: 드라이브 포트 정면 기준

SD20 Servo Drive

CN3 단자 정의 (SD20-G/GA)

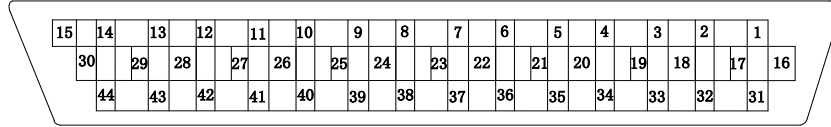


그림: 드라이브 포트 정면 기준

1	AO	10	DO1-	19	DI2	28	PL1	37	ZO
2	GP	11	DO2-	20	DI3	29	+24V	38	DI6
3	HPULS-	12	SIGN	21	DI4	30	CM	39	DI7
4	HPULS+	13	DI8+	22	DI5	31	DO4-	40	AGND
5	HSIGN+	14	DI8-	23	AS1	32	DO4+	41	DO3+
6	HSIGN-	15	/PULS	24	GND	33	PBO-	42	DO3-
7	ALM+	16	PZO+	25	AS2	34	PBO+	43	PL2
8	ALM-	17	PZO-	26	DO2+	35	PAO-	44	PULS
9	DO1+	18	DI1	27	/SIGN	36	PAO+		

Signal name		Pin No.	Function	
Position command	PULS	CN3-44	Low-speed pulse command input modes: differential drive input and open-collector.	Input pulse types: Direction + pulse A+B phase orthogonal pulse CW / CCW pulse
	/PULS	CN3-15		
	SIGN	CN3-12		
	/SIGN	CN3-27		
	HPULS+	CN3-4	High-speed pulse position command	
	HPULS-	CN3-3		
	HSIGN+	CN3-5	High-speed direction command	
	HSIGN-	CN3-6		
	PL1	CN3-28	Pulse direction input (24V)	
	PL2	CN3-43	Pulse command input (24V)	
GND	CN3-24	Signal reference terminal		
Analog	AS1+	CN3-23	Resolution of analog input signal is 12 bits, input voltage range is -10V ~ +10V.	
	AS2+	CN3-25	Resolution of analog input signal is 12 bits, input voltage range is -10V ~ +10V.	
	GND	CN3-24	Analog input signal reference terminal.	
Programmable input terminal	DI1	CN3-18	DI1-DI8 are digital input terminals, input mode is ON/OFF signal. DI input pulse frequency range is 0~3kHz.	
	DI2	CN3-19		
	DI3	CN3-20		
	DI4	CN3-21		
	DI5	CN3-22		
	DI6	CN3-38		
	DI7	CN3-39		
	DI8+	CN3-13	DI8 is a high-speed DI channel. When DI8 is used, the input pulse frequency range is 0~200kHz, and the pulse duty ratio cannot be lower than 20%.	
DI8-	CN3-14			
Programmable output terminal	DO1+	CN3-9	DO1-DO4 and ALM are DO output terminals, output mode is ON/OFF signal.	
	DO1-	CN3-10		
	DO2+	CN3-26		
	DO2-	CN3-11		
	DO3+	CN3-41		
	DO3-	CN3-42		
	DO4+	CN3-32		
	DO4-	CN3-31		
	ALM+	CN3-7		
ALM-	CN3-8			
Internal 24V	+24V	CN3-29	24V power supply, range is 20V~30V	
	CM	CN3-30	Reference terminal	
Common output terminal	PAO+	CN3-36	Encoder A phase pulse frequency-division output	
	PAO-	CN3-35	Encoder A phase pulse frequency-division output	
	PBO+	CN3-34	Encoder B phase pulse frequency-division output	
	PBO-	CN3-33	Encoder B phase pulse frequency-division output	
	PZO+	CN3-16	Encoder Z phase pulse frequency-division output	
	PZO-	CN3-17	Encoder Z phase pulse frequency-division output	
	OZ	CN3-37	Encoder Z-phase pulse outputs open collector signal	

SD20 Servo Drive

CN3 단자 정의 (SD20-E)

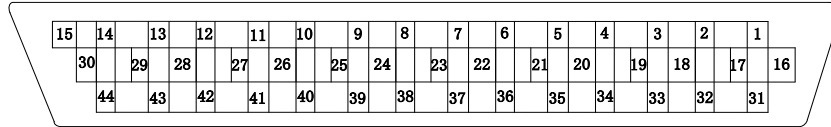


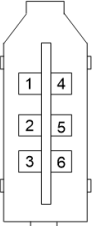
그림: 드라이브 포트 정면 기준

1	AO	10	DO1-	19	DI2	28	PL1	37	ZO
2	GP	11	DO2-	20	DI3	29	+24V	38	DI6
3	HPULS-	12	SIGN	21	DI4	30	CM	39	DI7
4	HPULS+	13	DI8+	22	DI5	31	DO4-	40	AGND
5	HSIGN+	14	DI8-	23	AS1	32	DO4+	41	DO3+
6	HSIGN-	15	/PULS	24	GND	33	PBO-	42	DO3-
7	ALM+	16	PZO+	25	AS2	34	PBO+	43	PL2
8	ALM-	17	PZO-	26	DO2+	35	PAO-	44	PULS
9	DO1+	18	DI1	27	/SIGN	36	PAO+		

Signal name		Pin No.	Function
High speed pulse receiving port	HPULS+	CN3-4	High-speed pulse position command
	HPULS-	CN3-3	
	HSIGN+	CN3-5	High-speed direction command
	HSIGN-	CN3-6	
	GND	CN3-24	Signal reference terminal
Programmable input terminal	DI1	CN3-18	DI1-DI8 are digital input terminals, input mode is ON/OFF signal. DI input pulse frequency range is 0~3kHz.
	DI2	CN3-19	
	DI3	CN3-20	
	DI4	CN3-21	
	DI5	CN3-22	
	DI6	CN3-38	
	DI7	CN3-39	
	DI8+	CN3-13	DI8 is a high-speed DI channel. When DI8 is used, the input pulse frequency range is 0~200kHz, and the pulse duty ratio cannot be lower than 20%.
	DI8-	CN3-14	
Programmable output terminal	DO1+	CN3-9	DO1-DO4 and ALM are DO output terminals, output mode is ON/OFF signal.
	DO1-	CN3-10	
	DO2+	CN3-26	
	DO2-	CN3-11	
	DO3+	CN3-41	
	DO3-	CN3-42	
	DO4+	CN3-32	
	DO4-	CN3-31	
	ALM+	CN3-7	
	ALM-	CN3-8	
Common output terminal	PAO+	CN3-36	Encoder A phase pulse frequency-division output
	PAO-	CN3-35	Encoder A phase pulse frequency-division output
	PBO+	CN3-34	Encoder B phase pulse frequency-division output
	PBO-	CN3-33	Encoder B phase pulse frequency-division output
	PZO+	CN3-16	Encoder Z phase pulse frequency-division output
	PZO-	CN3-17	Encoder Z phase pulse frequency-division output
	OZ	CN3-37	Encoder Z-phase pulse outputs open collector signal
	CM	CN3-30	Reference terminal

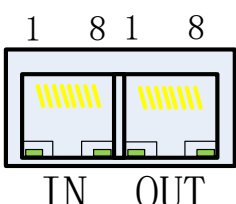
Communication Wiring

직렬 인터페이스

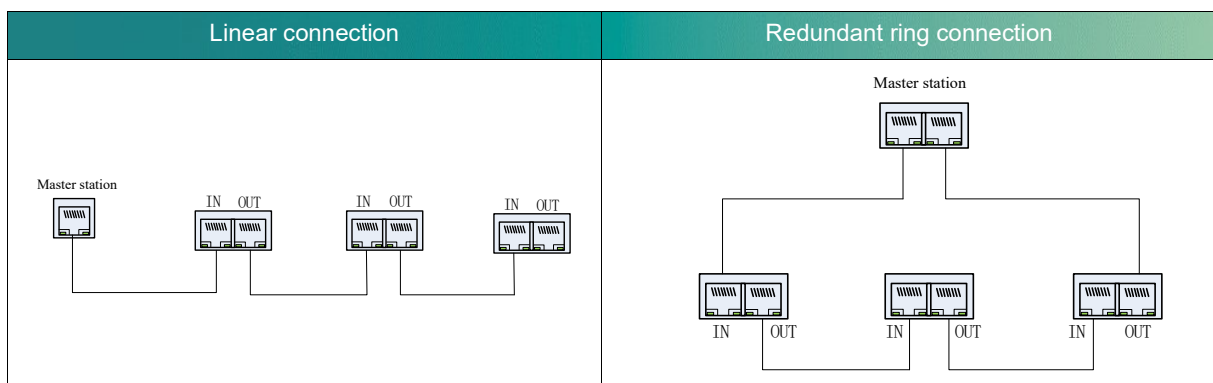
	Pin	Name	Definition
	CN1-1	VCC	5V power
	CN1-2	RS232-RXD	Receiver terminal of RS232
	CN1-3	B-	Differential output -
	CN1-4	GND	Reference terminal
	CN1-5	RS232-TXD	Transmission terminal of RS232
	CN1-6	A+	Differential output +

참고: CN1의 전원 공급 장치는 100mA의 부하 용량을 제공할 수 있습니다. 부하 수요가 100mA보다 큰 경우 외부 전원 공급 장치로 전환하십시오.

EtherCAT 인터페이스

	Pin	Name	Definition
	1	TX+	Data send+
	2	TX-	Data send-
	3	RX+	Data receive+
	4	Reserved	Reserved
	5	Reserved	Reserved
	6	RX-	Data receive-
	7	Reserved	Reserved
	8	Reserved	Reserved

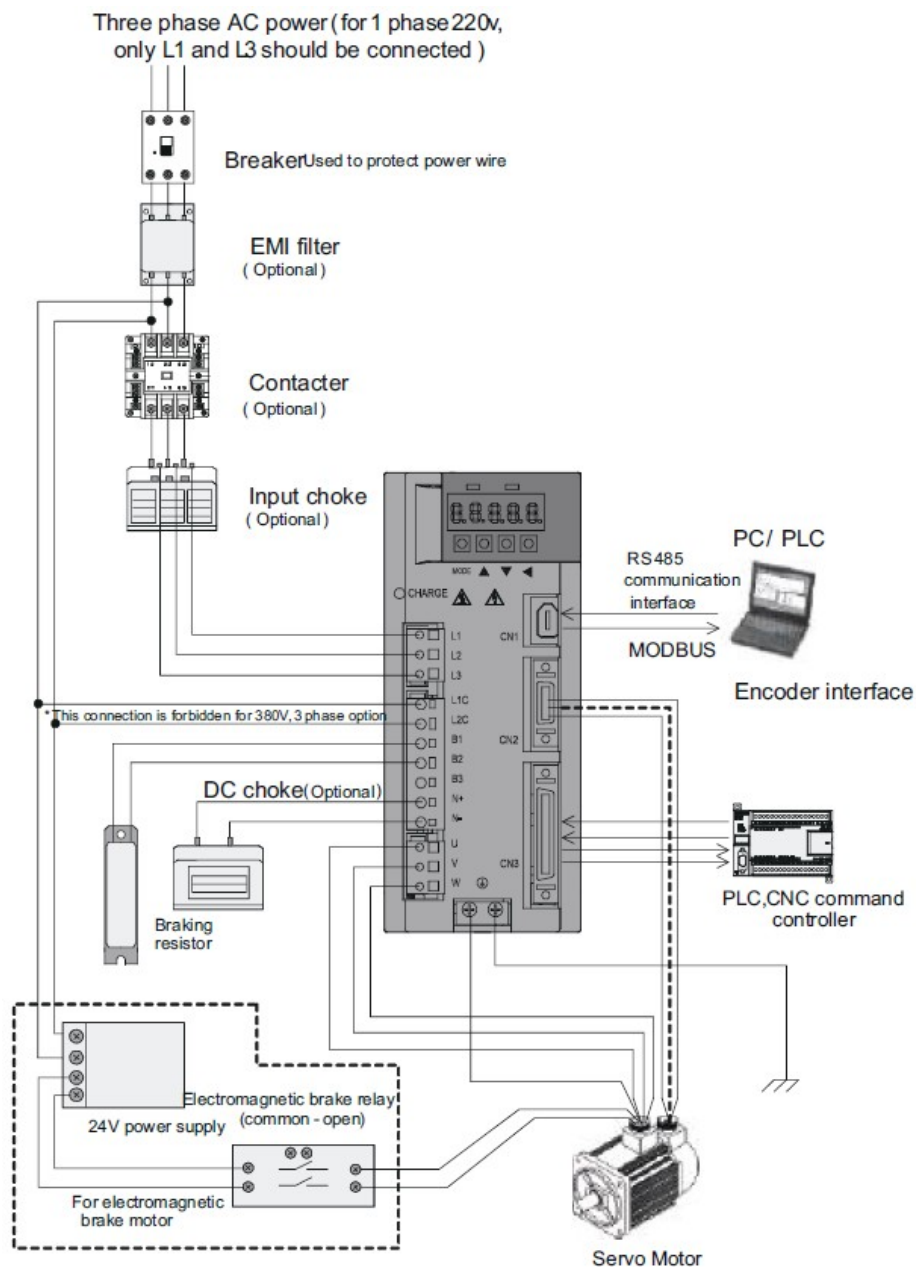
EtherCAT 통신 커넥션



SD20 Servo Drive

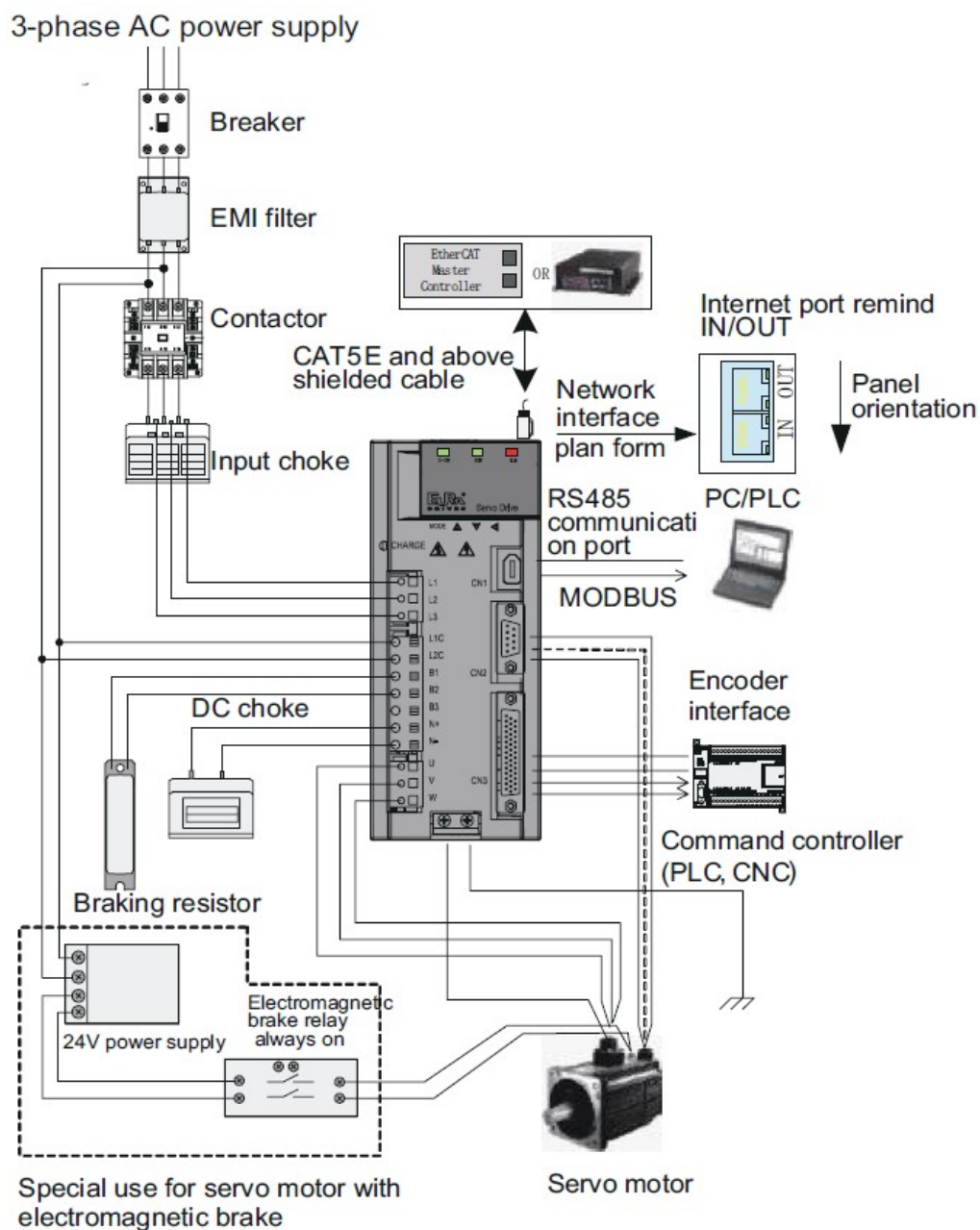
SD20-G connection to peripheral devices

단상 220V, L1과 L3만 연결해야 합니다.



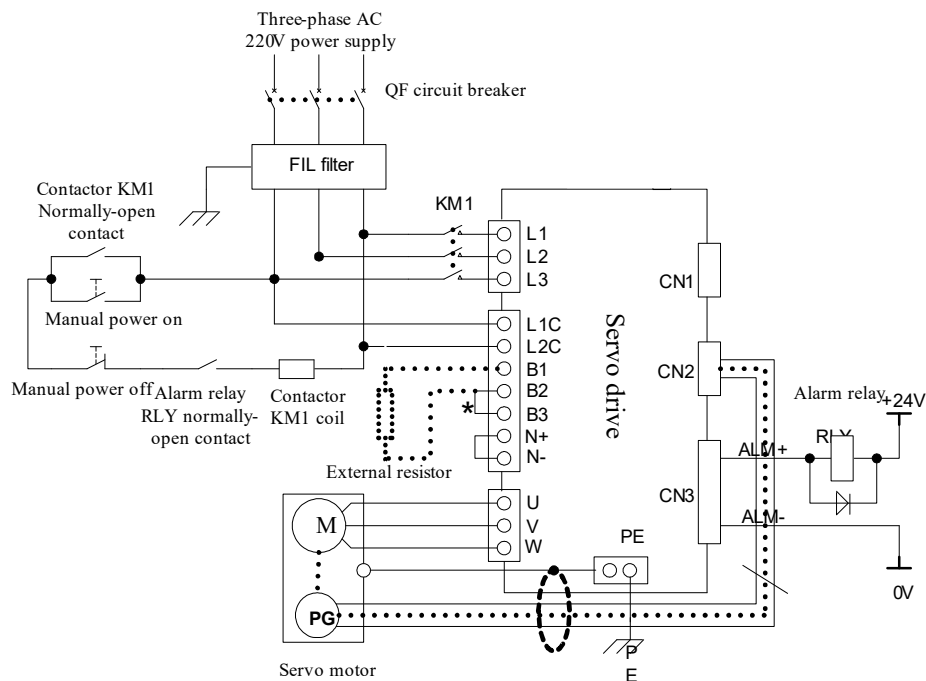
SD20 Servo Drive

SD20-E connection to peripheral devices

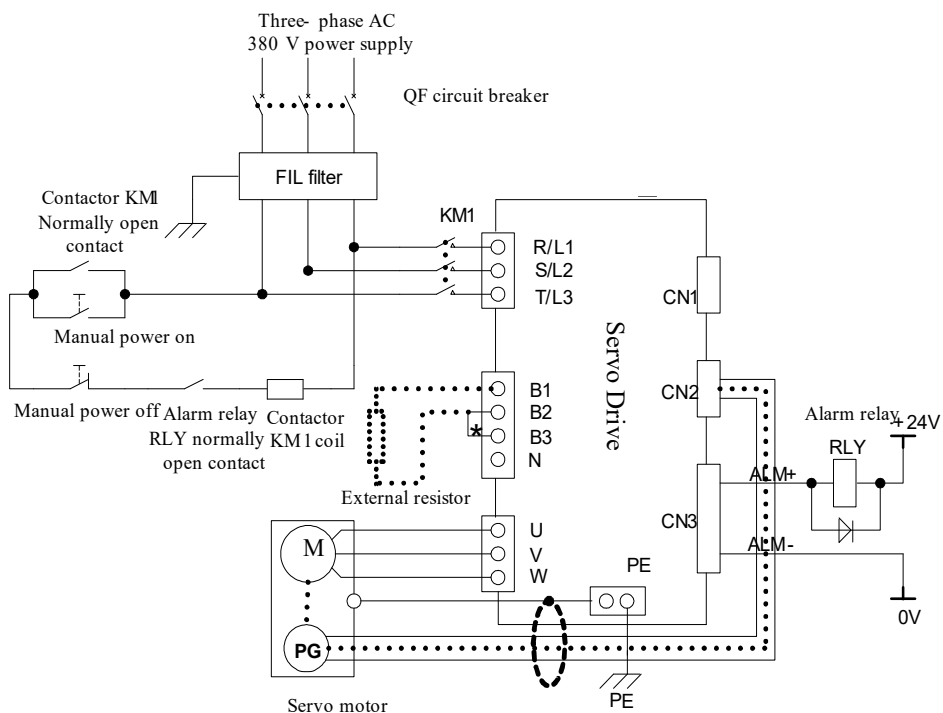


SD20 Servo Drive

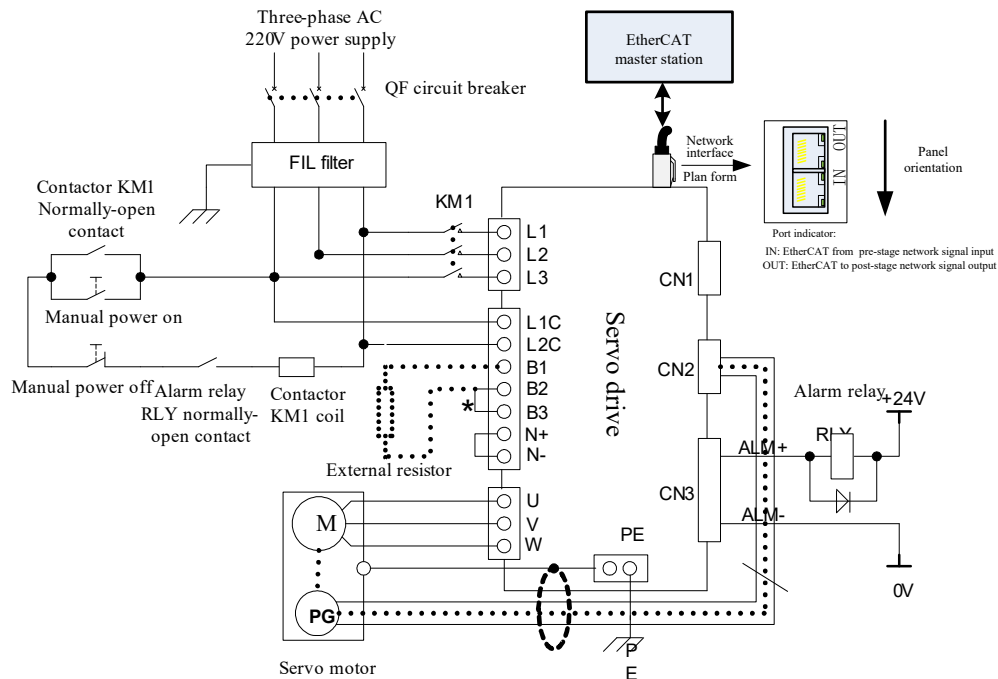
SD20-G 220V Main Circuit Wiring



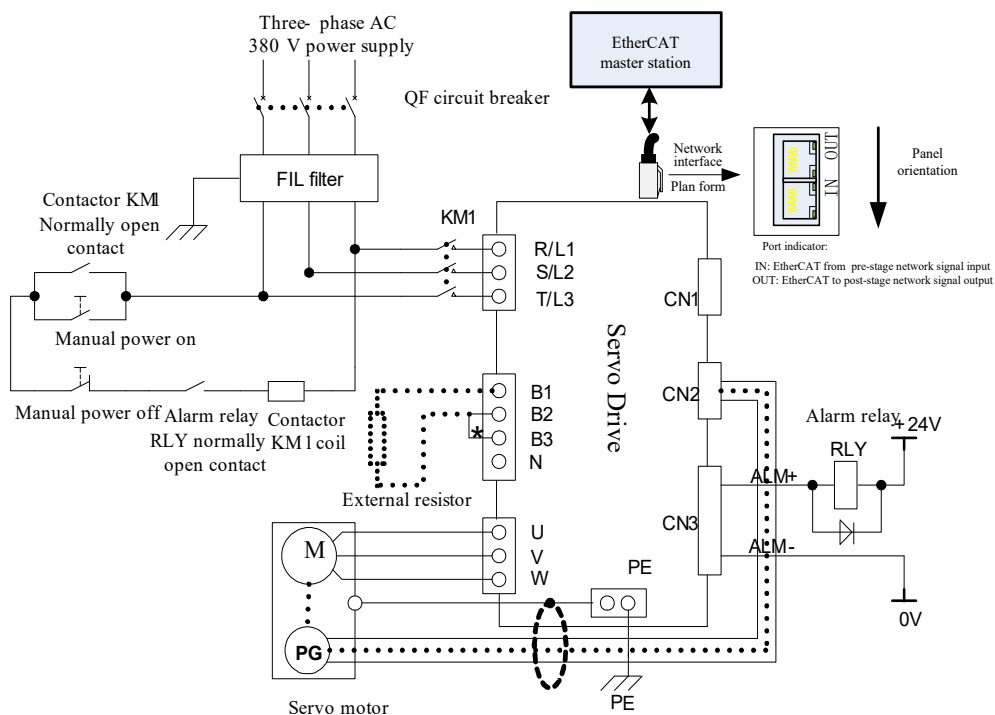
SD20-G 380V Main Circuit Wiring



SD20-E 220V Main Circuit Wiring

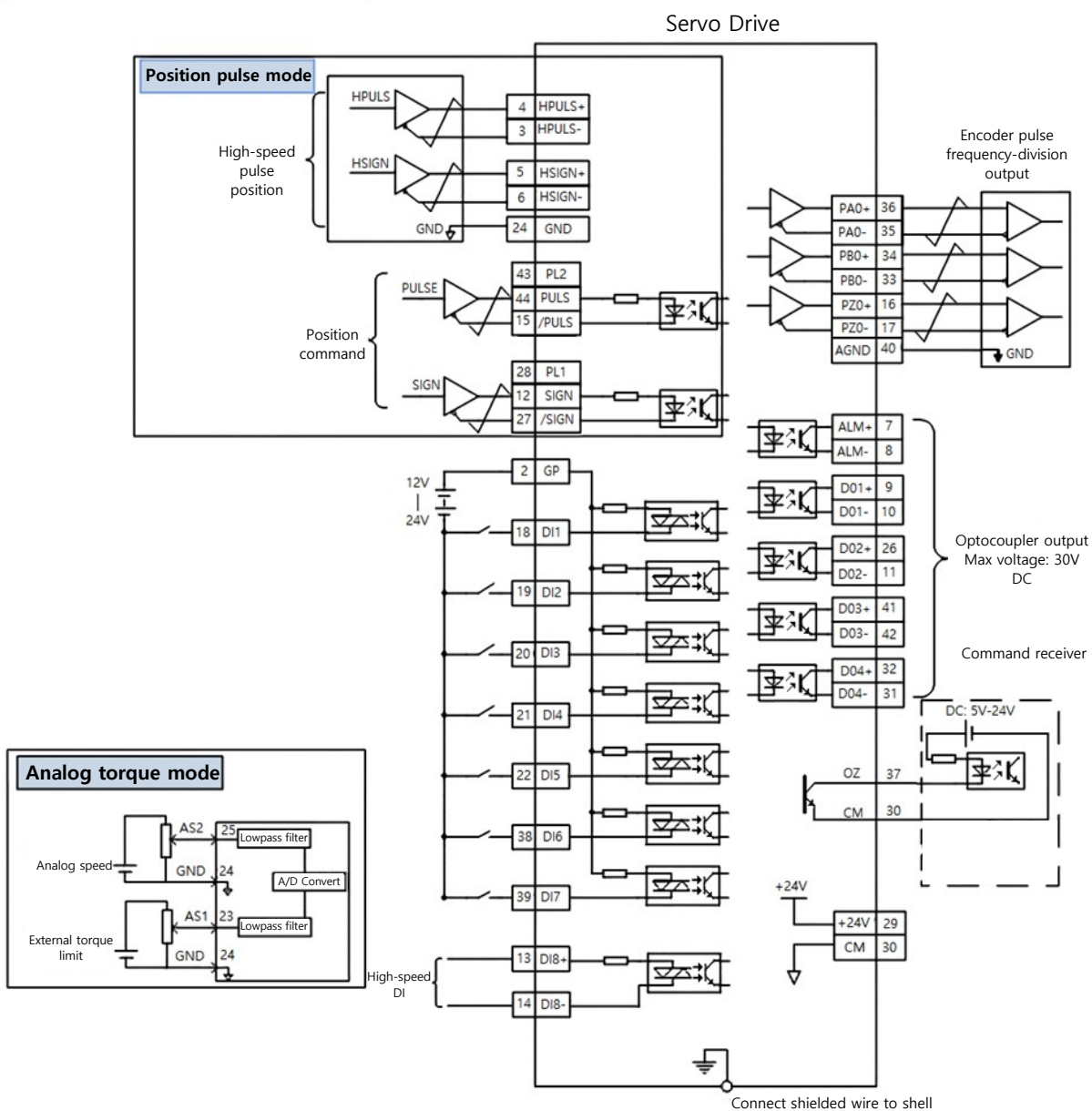
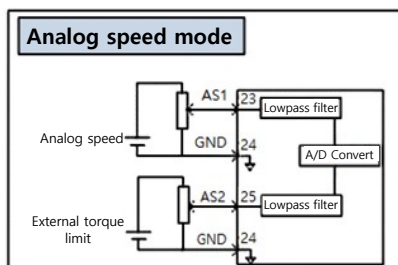


SD20-E 380V Main Circuit Wiring



SD20 Servo Drive

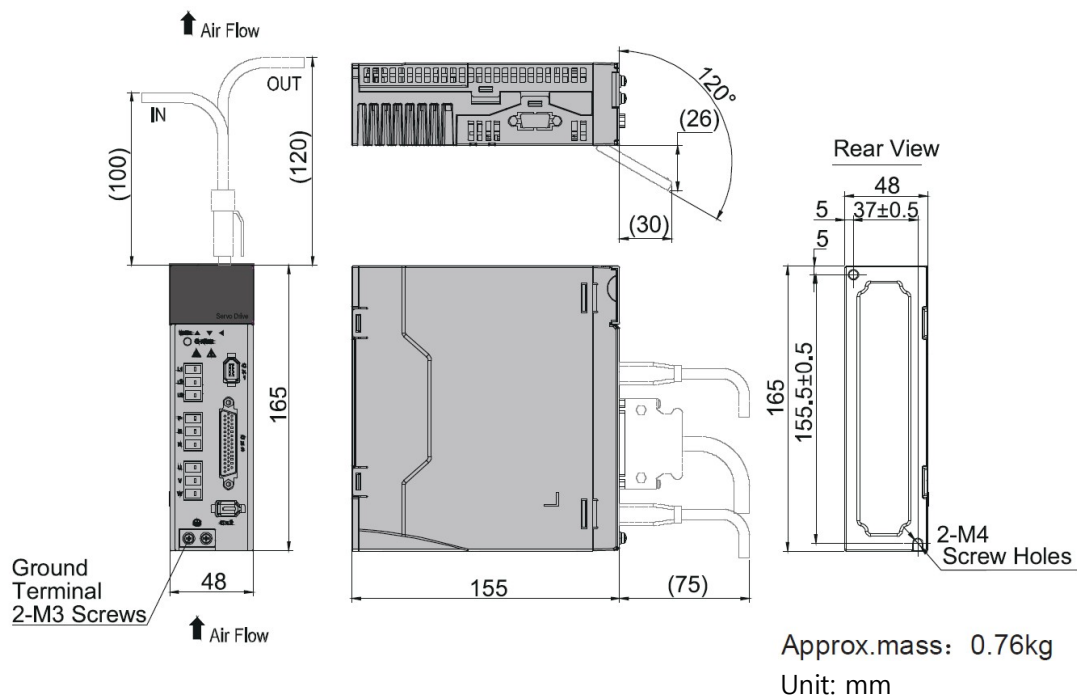
Control Function Wiring Diagram



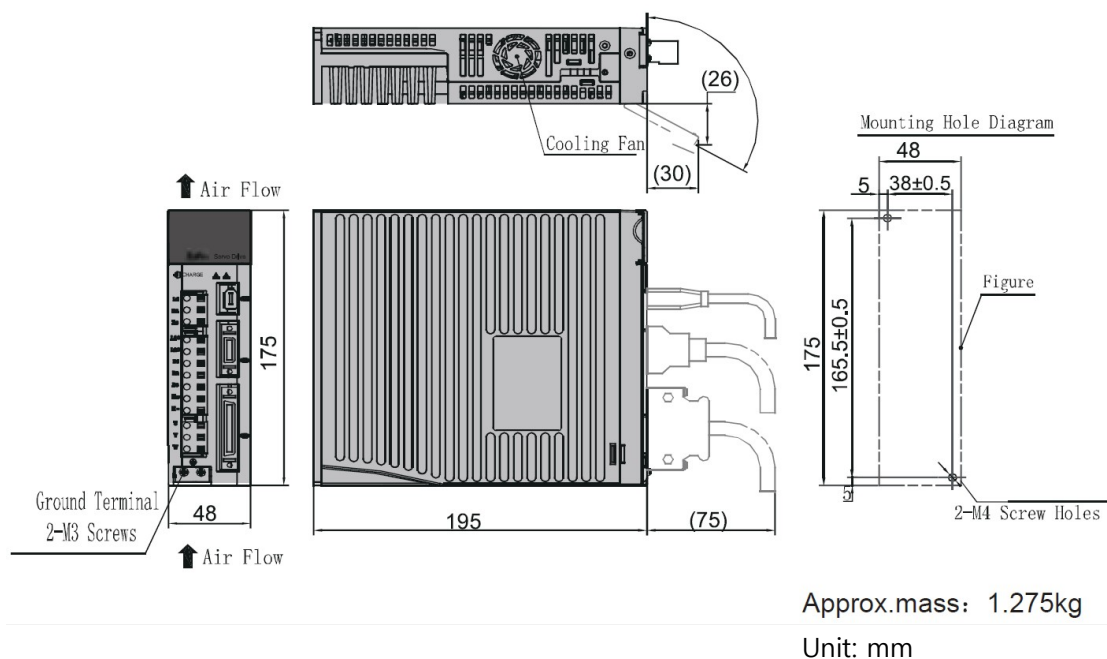
SD20 Servo Drive

Servo Drive Dimensions

M0 Frame 도면

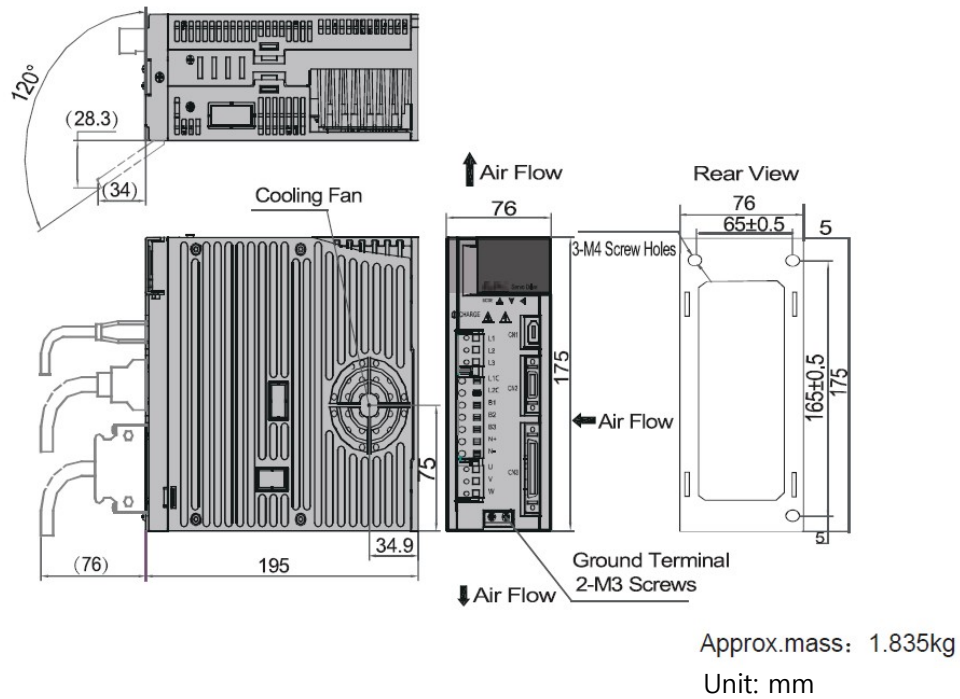


M1 Frame 도면

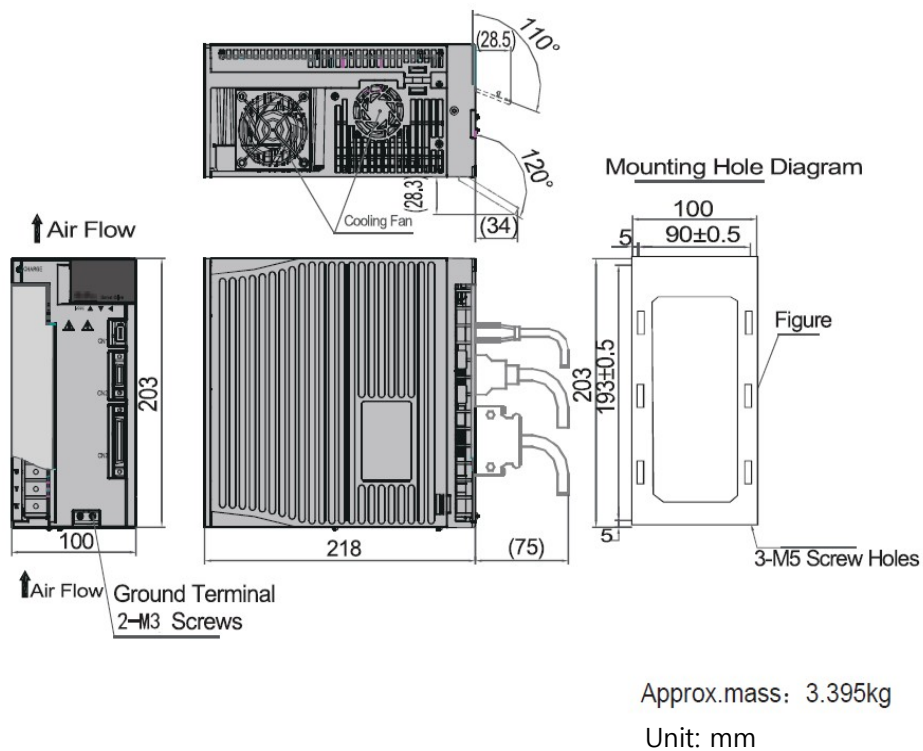


SD20 Servo Drive

M2 Frame 도면

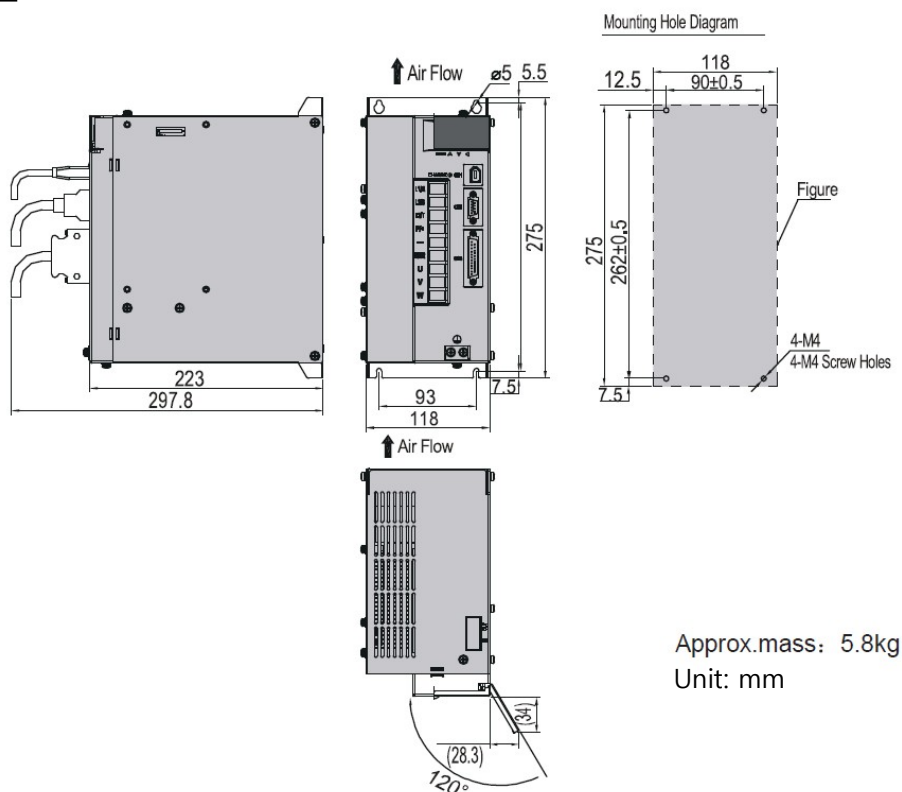


M3 Frame 도면

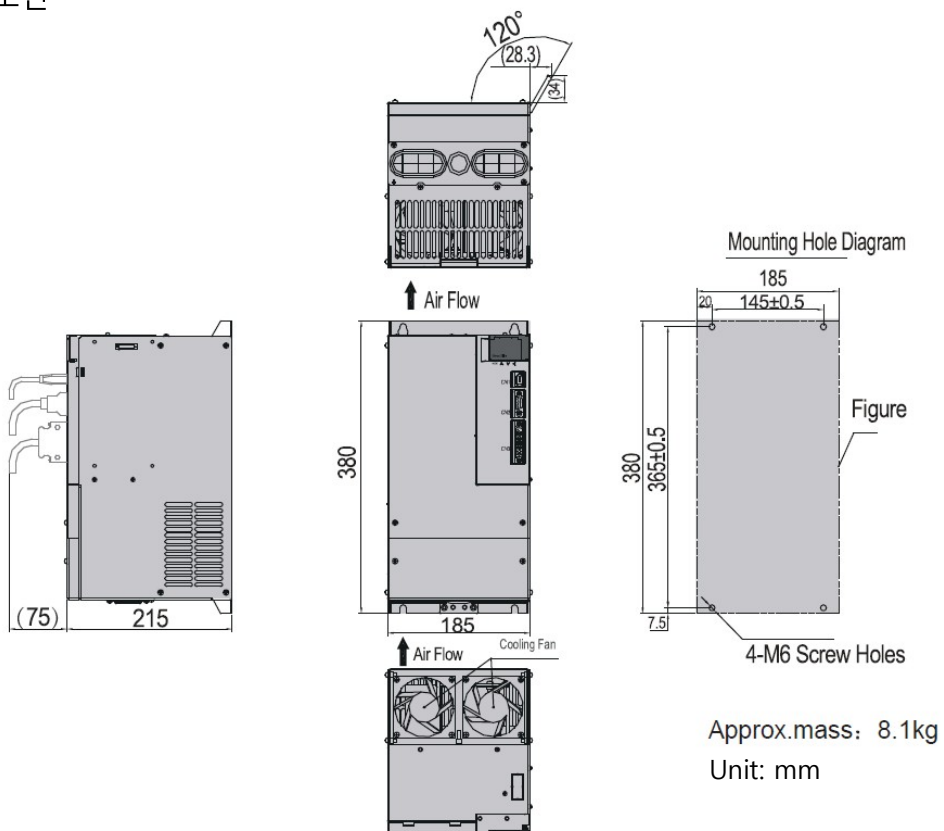


SD20 Servo Drive

ML3 Frame 도면

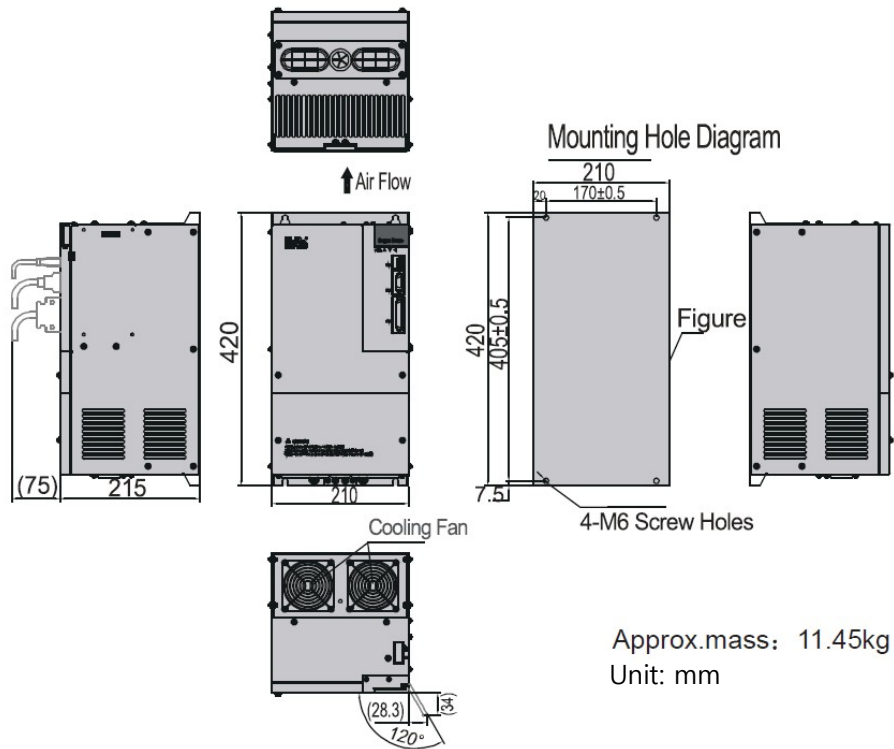


M4 Frame 도면

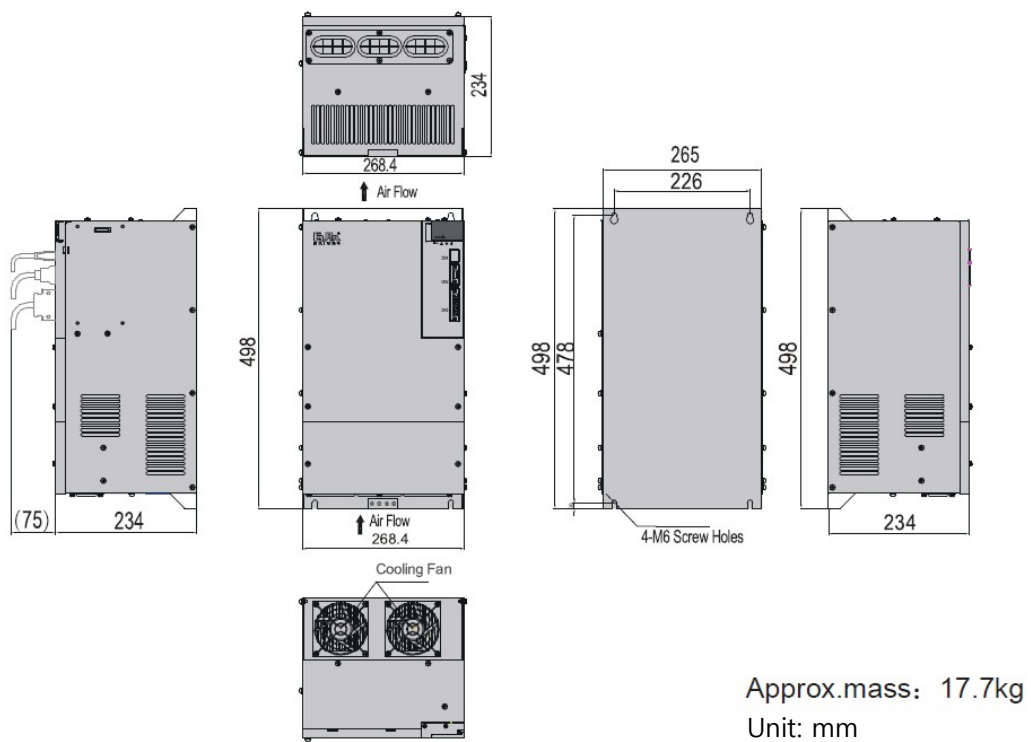


SD20 Servo Drive

M5 Frame 도면

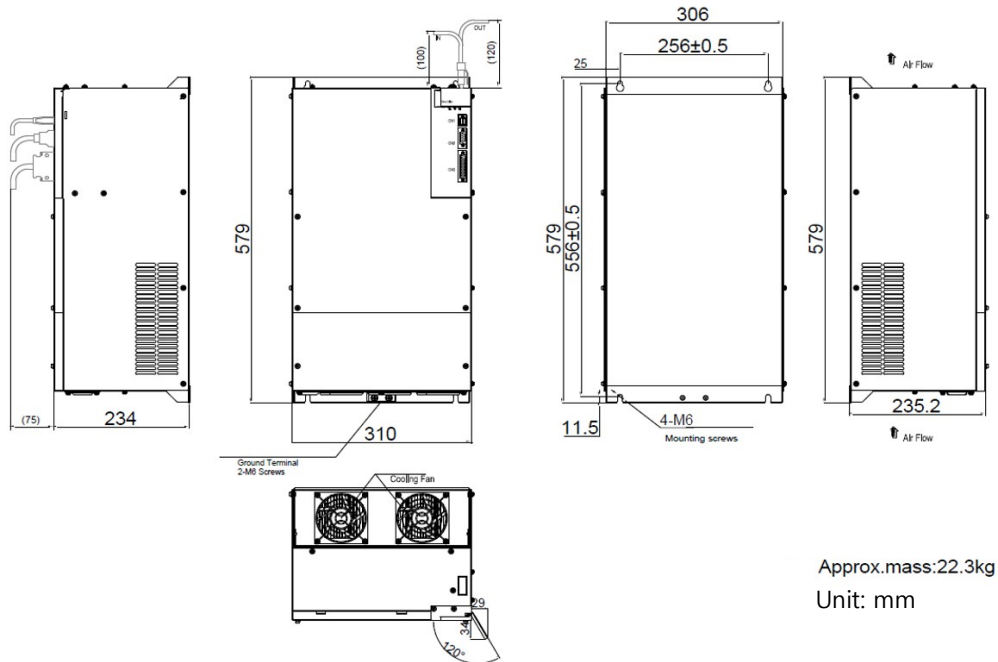


M6 Frame 도면

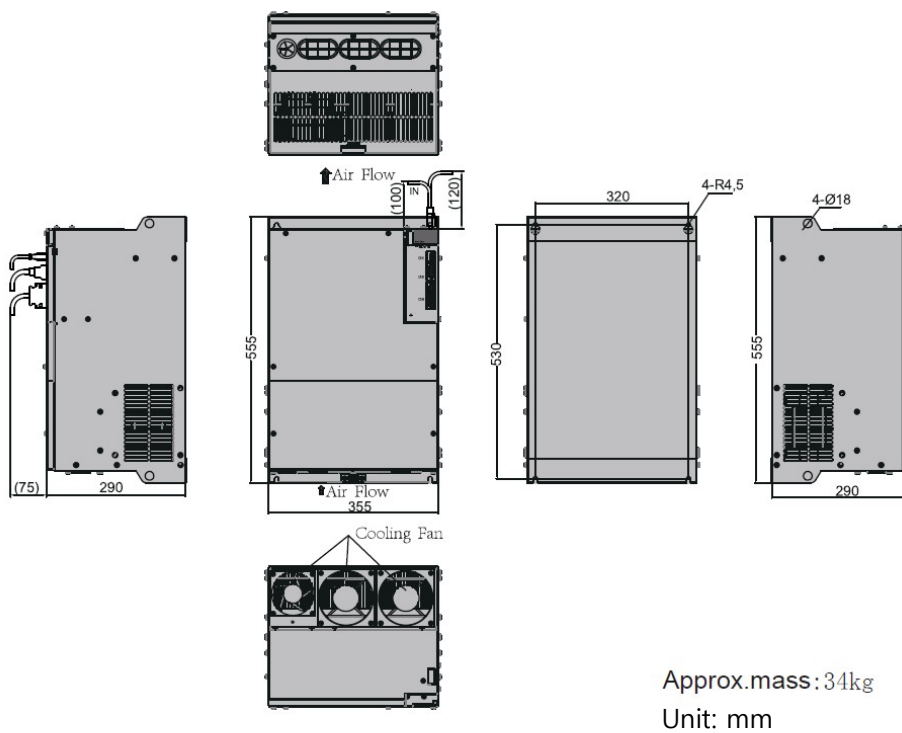


SD20 Servo Drive

M7 Frame 도면

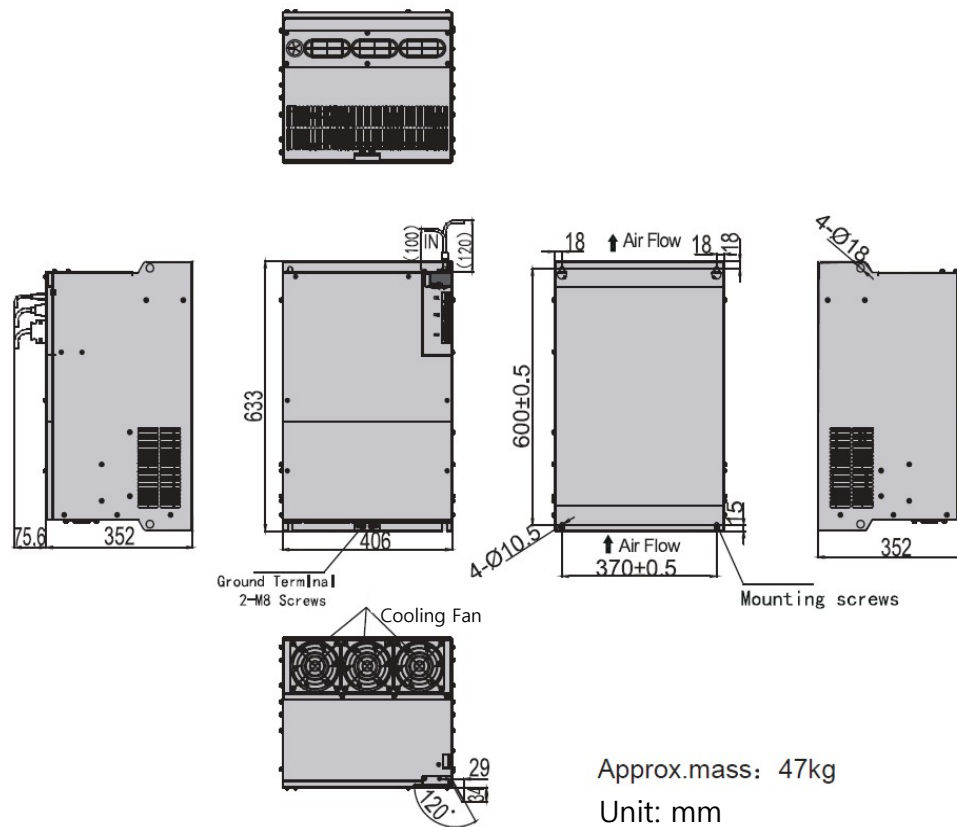


M8 Frame 도면



SD20 Servo Drive

M9 Frame 도면



Servo Motor

Servo motor naming rule (for 180 flange and below motor)

Servo motor		SMMB - 232 G 3 7 E D K									
		Design code									
		Shaft									
		C Smooth shaft with C hole									
		D Keyway shaft with C hole									
		Optional									
		B With brake and no fan									
		E Without brake and fan									
		G With fan, without brake									
		K With brake and fan									
		Flange Size									
		2 60 Flange									
		3 80 Flange									
		5 110 Flange									
		7 130 Flange									
		A 180 Flange									
		Bus voltage									
		3 300V									
		6 600V									

SM series(Four pairs pole)	
SD series(Five pairs pole)	

Rated speed	
SA	3000rpm
SB	2500rpm
MA	2000rpm
MB	1500rpm
LA	1000rpm

Rated power	
201	200W
751	750W
232	2.3kW
.....	

Encoder type	
R	Resolver
G	8-core 2500 ppr incremental encoder
H	23-bit incremental encoder
S	17-bit absolute encoder
T	23-bit absolute encoder
C	Magnetic encoder
U	23-bit single-turn absolute encoder

Servo motor naming rule (for 180 spigot and 250 spigot motor)

Servo motor		SM 17-0110 R 6 E E D F L									
SM series		Design code									
		Cooling mode									
		F Air cooling fan									
		N Without cooling fan									
		Shaft									
		D Keyway									
		Brake									
		E Without brake									
		Flange size									
		E 180 Spigot									
		F 250 Spigot									
		Bus voltage									
		6 600V									

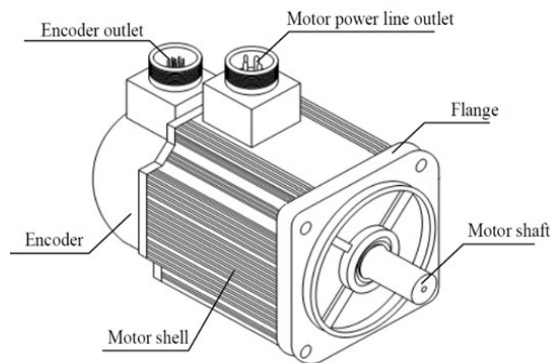
Rated speed	
15	1500rpm
17	1700rpm
19	1900rpm
20	2000rpm

Rated power	
0075	7.5kW
0110	11kW
0180	18kW
.....	

Encoder type	
R	Resolver
G	8-core 2500ppr incremental encoder
H	23-bit incremental encoder
S	17-bit absolute value encoder
T	23-bit absolute value encoder

Servo Motor

Servo Motor Component



Servo Motor Model

1) Four-pole 220V servo motor

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		W	N·m	A	$10^{-4}\text{kg}\cdot\text{m}^2$
SMS 3000r/min	SMSA-101*31***	100	0.32	0.6	0.051
	SMSA-201*32***	200	0.64	1.2	0.175
	SMSA-401*32***	400	1.27	2.8	0.29
	SMSA-751*33***	750	2.39	3.5	1.82
	SMSA-102*33***	1000	3.5	4.5	2.63
	SMSA-122*35***	1200	4	5	5.4
	SMSA-152*37***	1500	5	7.5	10.6
	SMSA-182*35***	1800	6	8	7.6
	SMSA-232*37***	2300	7.7	10.6	15.3
	SMSA-302*37***	3000	10	15.5	19.4
SMS 2500r/min	SMSB-102*33***	1000	3.82	4	2.97
	SMSB-152*37***	1500	6	7	13.77
	SMSB-202*37***	2000	7.7	9.9	15.3
	SMSB-262*37***	2600	10	11.8	22
SMM 2000r/min	SMMA-801*35***	800	4	3.5	5.4
	SMMA-851*37***	850	4	4	8.5
	SMMA-102*37***	1000	5	5	10.6
	SMMA-122*35***	1200	6	5.2	7.6
	SMMA-132*37***	1300	6	6	12.6
	SMMA-152*37***	1500	7.7	7.5	15.2
	SMMA-202*37***	2000	10	10	19.4
	SMMA-312*37***	3100	15	14	27.7
	SMMA-352*3A***	3500	17.2	16	65
	SMMA-452*3A***	4500	21.5	19	79.6

Servo Motor

Motor		Rated power	Rated torque	Rated current	Rotation iner-
		W	N·m	A	$10^{-4}\text{kg}\cdot\text{m}^2$
SMM 1500r/min	SMMB-122*37***	1200	7.7	5.5	15.3
	SMMB-152*37***	1500	10	6.6	19.4
	SMMB-232*37***	2300	14.6	10	27.7
	SMMB-302*3A***	3000	19	12	70
	SMMB-432*3A***	4300	27	16	96.4
	SMMB-552*3A***	5500	35	24	122.5
SML 1000r/min	SMLA-102*37***	1000	10	4.5	19.4
	SMLA-152*37***	1500	14.3	7	27.7
	SMLA-292*3A***	2900	27	12	96.4
	SMLA-372*3A***	3700	35	16	122.5

2) Four-pole 380V servo motor

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		W	N·m	A	$10^{-4}\text{kg}\cdot\text{m}^2$
SMS 3000r/min	SMSA-751*63***	750	2.39	2	1.82
	SMSA-102*63***	1000	3.5	3	2.63
	SMSA-122*65***	1200	4	4	5.4
	SMSA-152*67***	1500	5	5	10.6
	SMSA-182*65***	1800	6	6	7.6
	SMSA-232*67***	2300	7.7	7	15.3
	SMSA-302*67***	3000	10	8	19.4
SMS 2500r/min	SMSB-262*67***	2600	10	7.2	22
	SMSB-502*6A***	5000	19	12.5	70
SMM 2000r/min	SMMA-801*65***	800	4	2.5	5.4
	SMMA-851*67***	850	4	3	8.5
	SMMA-102*67***	1000	5	3	10.6
	SMMA-122*65***	1200	6	3.5	7.6
	SMMA-132*67***	1300	6	3.5	12.6
	SMMA-152*67***	1500	7.7	4.5	15.2
	SMMA-202*67***	2000	10	5.5	19.4
	SMMA-312*67***	3100	15	9	27.7
	SMMA-352*6A***	3500	17.2	9	65
	SMMA-452*6A***	4500	21.5	10	79.6
	SMMA-602*6A***	6000	27	14	96.4
	SMMA-752*6A***	7500	35.8	18	122.5
	SMMA-103*6A***	10000	48	24	167.2
SMM 1500r/min	SMMB-122*67***	1200	7.7	4	15.3
	SMMB-152*67***	1500	10	4	19.4
	SMMB-232*67***	2300	14.6	6	27.7
	SMMB-302*67***	3000	19	8	70
	SMMB-432*6A***	4300	27	10	96.4
	SMMB-552*6A***	5500	35	12.5	122.5
	SMMB-752*6A***	7500	48	17	167.2
SML 1000r/min	SMLA-102*67***	1000	10	3	19.4
	SMLA-292*6A***	2900	27	7	96.4
	SMLA-372*6A***	3700	35	9	122.5

Servo Motor

3) Five-pole 220V servo motor

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		W	N·m	A	10 ⁻⁴ kg·m ²
SD 3000r/min	SDSA-201C32***	0.2	0.64	1.4	0.263
	SDSA-401C32***	0.4	1.27	2.8	0.487
	SDSA-751*32E**	0.75	2.39	3.5	1.74
SD 1500r/min	SDBM-851*37E**	0.85	5.39	3.98	8.13
	SDBM-132*37E**	1.3	8.28	6.86	11.7
	SDBM-182*37E**	1.8	11.46	7.9	15.4

4) Five-pole 380V servo motor

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		W	N·m	A	10 ⁻⁴ kg·m ²
SD 1500r/min	SDBM-851*67E**	0.85	5.39	2.58	8.13
	SDBM-132*67E**	1.3	8.28	3.43	11.7
	SDBM-182*67E**	1.8	11.46	5	15.4

5) Servo motor of 180 and 250 spigot

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		kW	N·m	A	10 ⁻⁴ kg·m ²
SM 1500r/min	SM15-0100*6EE*FL	10	64	20.7	104
	SM15-0124*6EE*FL	12.4	80	24.7	129
	SM15-0160*6EE*FL	16	102	33.5	153
	SM15-0180*6EE*FL	18	118	40	177
	SM15-0210*6EE*FL	21	135	43.2	201
	SM15-0240*6EE*FL	24	152	46.7	225
	SM15-0290*6FE*FL	29	185	57.5	575
	SM15-0350*6FE*FL	35	225	71.7	710
	SM15-0400*6FE*FL	40	255	79	846
	SM15-0420*6FE*FL	42	270	91	981
	SM15-0480*6FE*FL	48.4	307	103	981
	SM15-0540*6FE*FL	54	342.4	110.7	1117
	SM15-0610*6FE*FL	61	385.2	138.3	1253
	SM15-0840*6FEDFN	84	535	154.4	1398
	SM15-0924*6FEDFN	92.4	588.5	171.6	1537
	SM15-1008*6FEDFN	100.8	642	193	1673
	SM15-1092*6FEDFN	109.2	695.5	193	1809
SM 1700r/min	SM17-0092*6EE*FL	9.2	52	18	80
	SM17-0110*6EE*FL	11	64	23	104
	SM17-0140*6EE*FL	14	80	29.2	129
	SM17-0180*6EE*FL	18	102	38.5	153
	SM17-0210*6EE*FL	21	118	45	177
	SM17-0240*6EE*FL	24	135	48.5	201
	SM17-0270*6EE*FL	27	152	57.5	225
	SM17-0330*6FE*FL	33	185	68	575
	SM17-0400*6FE*FL	40	225	81.4	710
	SM17-0450*6FE*FL	45	255	94	846
	SM17-0480*6FE*FL	48	270	98	846
	SM17-0550*6FE*FL	55	307	110	981
	SM17-0610*6FE*FL	61	342.4	138.4	1117
	SM17-0690*6FE*FL	69	385.2	138.4	1253

Servo Motor

Motor model note		Rated power	Rated torque	Rated current	Rotation inertia
		kW	N·m	A	10 ⁻⁴ kg·m ²
SM 1700r/min	SM17-0857*6FEDFN	85.7	481.5	154.4	1261
	SM17-0952*6FEDFN	95.2	535	171.6	1398
	SM17-1048*6FEDFN	104.8	588.5	193.2	1537
SM 2000r/min	SM20-0100*6EE*FL	10	52	22	80
	SM20-0140*6EE*FL	14	64	30	104
	SM20-0180*6EE*FL	18	84	37	129
	SM20-0220*6EE*FL	22	102	43	153
	SM20-0250*6EE*FL	25	118	49	177
	SM20-0280*6EE*FL	28	135	56.9	201
	SM20-0300*6EE*FL	30	152	67	225
	SM20-0360*6FE*FL	36	185	74	575
	SM20-0450*6FE*FL	45	215	92.7	710
	SM20-0540*6FE*FL	54	258	111	846
	SM20-0640*6FE*FL	63.6	307	125.7	981
	SM20-0720*6FE*FL	72	342.4	138.3	1117
	SM20-0896*6FEDFN	89.6	428	171.5	1125
	SM20-1008*6FEDFN	100.8	481.5	193	1261
	SM20-1120*6FEDFN	112	535	193	1398

Note: **은 모터 샤프트 및 브레이크 유형을 나타내며 자세한 내용은 서보 모터 명명 규칙을 참조하십시오.

Combination of Servo Drive and Servo Motor

220V 서보 모터와 SD20 서보 드라이브의 조합

Motor model		Power	Adaptable servo drive ^{note}		
		W	1-phase 220V	3-phase 220V	Function code
SMS 3000r/min	SMSA-101F31***	100	SD20-G101S2M0	SD20-G101T2M0	*F*D*B*
	SMSA-201F/S32***	200	SD20-G201S2M1	SD20-G201T2M1	
	SMSA-401F/S32***	400	SD20-G751S2M1	SD20-G751T2M1	
	SMSA-751*33***	750			
	SMSA-102*33***	1000	SD20-G102S2M2	SD20-G102T2M2	
	SMSA-122*35***	1200	SD20-G122S2M2	SD20-G122T2M2	
	SMSA-152*37***	1500	SD20-G182S2M2	SD20-G182T2M2	
	SMSA-182*35***	1800			
	SMSA-232*37***	2300	—	SD20-G302T2M3	
SMSA-302*37***	3000	—	SD20-G452T2M3		
SMS 2500r/min	SMSB-102*33***	1000	SD20-G102S2M2	SD20-G102T2M2	
	SMSB-152*37***	1500	SD20-G182S2M2	SD20-G182T2M2	
	SMSB-202*37***	2000	SD20-G222S2M3	SD20-G222T2M3	
	SMSB-262*37***	2600	—	SD20-G302T2M3	
SMM 2000r/min	SMMA-801*35***	800	SD20-G102S2M2	SD20-G102T2M2	
	SMMA-851*37***	850			
	SMMA-102*37***	1000	SD20-G122S2M2	SD20-G122T2M2	
	SMMA-122*35***	1200			
	SMMA-132*37***	1300	SD20-G182S2M2	SD20-G182T2M2	
	SMMA-152*37***	1500			
	SMMA-202*37***	2000	SD20-G222S2M2	SD20-G222T2M3	
	SMMA-312*37***	3100	—	SD20-G452T2M3	
	SMMA-352*3A***	3500	—		
	SMMA-452*3A***	4500	—	SD20-G552T2M4	
SMM 1500r/min	SMMB-122*37***	1200	SD20-G122S2M2	SD20-G122T2M2	
	SMMB-152*37***	1500	SD20-G182S2M2	SD20-G182T2M2	
	SMMB-232*37***	2300	—	SD20-G222T2M3	
	SMMB-302*3A***	3000	—	SD20-G302T2M3	
	SMMB-432*3A***	4300	—	SD20-G452T2M3	
	SMMB-552*3A***	5500	—	SD20-G552T2M4	

Servo Motor

Motor model		Power	Adaptable servo drive ^{note}		
		W	1-phase 220V	3-phase 220V	Function code
SML 1000r/min	SMLA-102*37***	1000	SD20-G102S2M2	SD20-G102T2M2	*F*D*B*
	SMLA-152*37***	1500	SD20-G182S2M2	SD20-G182T2M2	
	SMLA-292*3A***	2900	—	SD20-G302T2M3	
	SMLA-372*3A***	3700	—	SD20-G452T2M3	

380V 서보 모터와 SD20 서보 드라이브의 조합

Motor model		Power	Adaptable servo drive ^{note}		
		W	3-phase 380V	Function code	
SMS 3000r/min	SMSA-751*63***	750	SD20-G102T3M2	*F*D*B*	
	SMSA-102*63***	1000			
	SMSA-122*65***	1200	SD20-G202T3M2		
	SMSA-152*67***	1500			
	SMSA-182*65***	1800			
	SMSA-232*67***	2300	SD20-G302T3M2		
SMSA-302*67***	3000	SD20-G452T3M3			
SMS 2500r/min	SMSB-502*6A***	5000	SD20-G552T3M3		
SMM 2000r/min	SMMA-801*65***	800	SD20-G102T3M2		
	SMMA-851*67***	850			
	SMMA-102*67***	1000			
	SMMA-122*65***	1200	SD20-G152T3M2		
	SMMA-132*67***	1300			
	SMMA-152*67***	1500	SD20-G202T3M2		
	SMMA-202*67***	2000			
	SMMA-312*67***	3100	SD20-G452T3M3		
	SMMA-352*6A***	3500			
	SMMA-452*6A***	4500	SD20-G752T3ML3		
	SMMA-602*6A***	6000			
	SMMA-752*6A***	7500			
SMM 1500r/min	SMMA-103*6A***	10000	SD20-G153T3M4		
	SMMB-122*67***	1200	SD20-G202T3M2		
	SMMB-152*67***	1500			
	SMMB-232*67***	2300			
	SMMB-302*6A***	3000			
	SMMB-432*6A***	4300			SD20-G452T3M3
	SMMB-552*6A***	5500			SD20-G552T3M3
SML 1000r/min	SMMB-752*6A***	7500	SD20-G752T3ML3		
	SMLA-102*67***	1000	SD20-G102T3M2		
	SMLA-292*6A***	2900	SD20-G302T3M2		
SM 1500r/min	SMLA-372*6A***	3700	SD20-G452T3M3		
	SM15-0100*6EE*FL	10000	SD20-G113T3ML3		
	SM15-0124*6EE*FL	12400			
	SM15-0160*6EE*FL	16000			
	SM15-0180*6EE*FL	18000	SD20-G183T3M5		
	SM15-0210*6EE*FL	21000	SD20-G223T3M5		
	SM15-0240*6EE*FL	24000	SD20-G303T3M6		
	SM15-0290*6FE*FL	29000			
	SM15-0350*6FE*FL	35000	SD20-G373T3M6		
	SM15-0400*6FE*FL	40000	SD20-G453T3M7		
	SM15-0420*6FE*FL	42000			
	SM15-0480*6FE*FL	48000	SD20-G553T3M8		
	SM15-0540*6FE*FL	54000			
	SM15-0610*6FE*FL	61000	SD20-G753T3M8		
	SM15-0840*6FE*FN	84000	SD20-G903T3M9		
	SM15-0924*6FEDFN	92400	SD20-G903T3M9		
	SM15-1008*6FEDFN	100800	SD20-G114T3M9		
SM15-1092*6FEDFN	109200	SD20-G114T3M9			

Servo Motor

Motor model		Power	Adaptable servo drive ^{note}	
		W	3-phase 380V	Function code
SM 1700r/min	SM17-0092*6EE*FL	9200	SD20-G113T3ML3	*F*D*B*
	SM17-0110*6EE*FL	11000		
	SM17-0140*6EE*FL	14000	SD20-G153T3M4	
	SM17-0180*6EE*FL	18000	SD20-G183T3M5	
	SM17-0210*6EE*FL	21000	SD20-G223T3M5	
	SM17-0240*6EE*FL	24000	SD20-G303T3M6	
	SM17-0270*6EE*FL	27000		
	SM17-0330*6FE*FL	33000	SD20-G373T3M6	
	SM17-0400*6FE*FL	40000	SD20-G453T3M7	
	SM17-0450*6FE*FL	45000	SD20-G553T3M8	
	SM17-0480*6FE*FL	48000		
	SM17-0550*6FE*FL	55000		
	SM17-0610*6FE*FL	61000	SD20-G753T3M8	
	SM17-0690*6FE*FL	69000		
	SM17-0857*6FE*FN	85700	SD20-G903T3M9	
SM17-0952*6FEDFN	95200	SD20-G903T3M9		
SM17-1048*6FEDFN	104800	SD20-G114T3M9		
SM 2000r/min	SM20-0100*6EE*FL	10000	SD20-G113T3ML3	
	SM20-0140*6EE*FL	14000	SD20-G153T3M4	
	SM20-0180*6EE*FL	18000	SD20-G183T3M5	
	SM20-0220*6EE*FL	22000	SD20-G223T3M5	
	SM20-0250*6EE*FL	25000	SD20-G303T3M6	
	SM20-0280*6EE*FL	28000		
	SM20-0300*6EE*FL	30000	SD20-G373T3M6	
	SM20-0360*6FE*FL	36000		
	SM20-0450*6FE*FL	45000	SD20-G553T3M8	
	SM20-0540*6FE*FL	54000		
	SM20-0640*6FE*FL	64000	SD20-G753T3M8	
	SM20-0720*6FE*FL	72000		
	SM20-0896*6FEDFN	89600	SD20-G903T3M9	
	SM20-1008*6FEDFN	100800	SD20-G114T3M9	
	SM20-1120*6FEDFN	112000	SD20-G114T3M9	

Note:

- SD20 시리즈 5.5kW 이상 모델은 에너지 손실 브레이크 기능을 지원하지 않습니다.
- F: Incremental servo motor; S: Absolute servo motor; R: Resolver servo motor.
- **은 모터 샤프트 및 브레이크 유형을 나타내며 자세한 내용은 서보 모터 명명 규칙을 참조하십시오.

Servo Motor

Servo Drive and Servo Motor Wiring

1) Absolute Encoder Layout

7-pin Motor Connector Pin Map (D71)

번호	명칭	기능
1	PE	Grounding
2	VCC	Encoder Power
3	GND	Encoder power ground
4	BAT(+)	Battery cathode
5	BAT(-)	Battery anode
6	PS	Absolute encoder serial signal
7	/PS	Absolute encoder serial signal

2) Incremental Encoder Layout

15-pin Motor Connector Pin Map (D50)

번호	명칭	기능
1	PE	Grounding
2	A	Encoder A phase
3	/A	Encoder /A phase
4	B	Encoder B phase
5	/B	Encoder /B phase
6	U	Encoder U phase
7	/U	Encoder /U phase
8	V	Encoder V phase
9	/V	Encoder /V phase
10	W	Encoder W phase
11	/W	Encoder /W phase
12	VCC	Encoder power
13	GND	Encoder grounding
14	Z	Encoder Z phase
15	/Z	Encoder /Z phase

10-pin Motor Connector Pin Map (D52)

번호	명칭	기능
1	PE	Grounding
2	VCC	Encoder power
3	GND	Encoder grounding
4	NC	No connection
5	NC	No connection
6	PS	Encoder serial signal
7	/PS	Encoder serial signal
8	KTY+	Motor thermistor signal
9	KTY-	Motor thermistor signal

Servo Motor

7-pin Motor Connector Pin Map (D52)

번호	명칭	기능
1	PE	Grounding
2	VCC	Encoder power
3	GND	Encoder grounding
4	NC	No connection
5	NC	No connection
6	PS	Encoder serial signal
7	/PS	Encoder serial signal

3) Resolver Layout

15-pin Motor Connector Pin Map (D20)

번호	명칭	기능
1	PE	Grounding
2	COS+	Resolver differential signal
3	NC	No connection
4	NC	No connection
5	COS-	Resolver differential signal
6	NC	No connection
7	NC	No connection
8	NC	No connection
9	NC	No connection
10	SIN+	Resolver differential signal
11	NC	No connection
12	NC	No connection
13	SIN-	Resolver differential signal
14	RE1	Resolver excitation signal
15	RE2	Resolver excitation signal

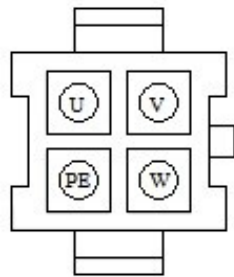
10-pin Motor Connector Pin Map (D20)

번호	명칭	기능
1	RE1	Resolver excitation signal
2	RE2	Resolver excitation signal
3	COS+	Resolver differential signal
4	COS-	Resolver differential signal
5	SIN+	Resolver differential signal
6	SIN-	Resolver differential signal
7	KTY+	Motor thermistor signal
8	KTY-	Motor thermistor signal
9	PE	Grounding
10	NC	No connection

Servo Motor

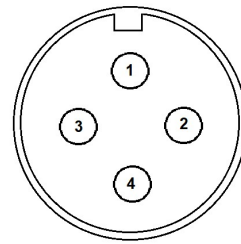
Power Cable of Servo Drive and Servo Motor

1) 4-pin 파워 앰프 플러그



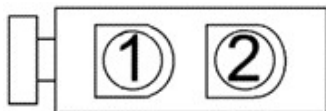
명칭	케이블 색상	기능
U	노랑	드라이브 입력
V	파랑	드라이브 입력
W	빨강	드라이브 입력
PE	연두 / 검정	접지

2) 4-pin 전원 예비에이션 플러그



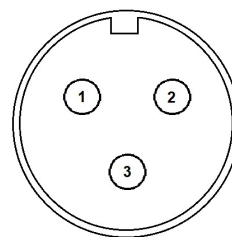
번호	명칭	기능
1	PE	접지
2	U	드라이브 입력
3	V	드라이브 입력
4	W	드라이브 입력

3-1) 브레이크 케이블 플러그



번호	명칭	기능
1	+	DC 24V +
2	-	DC 24V -

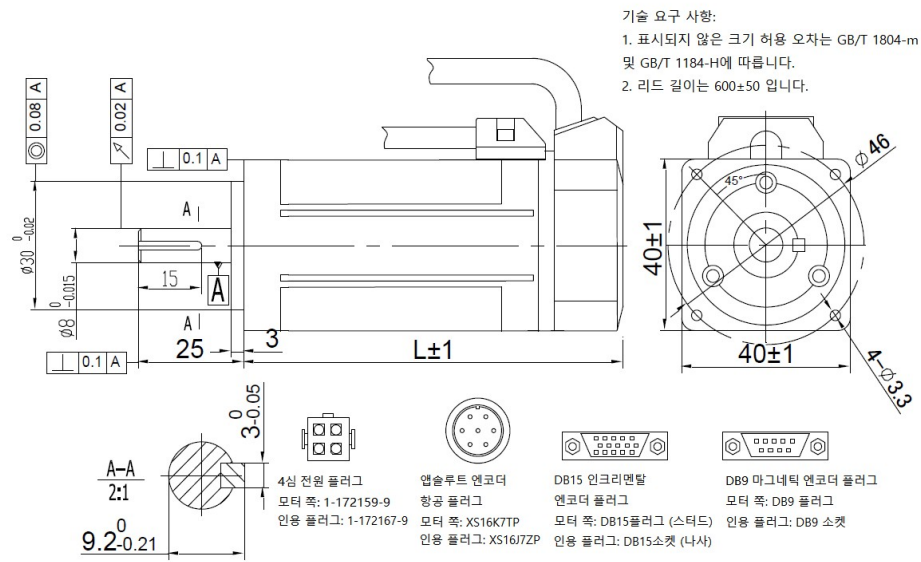
3-2) 브레이크 케이블 플러그



번호	명칭	기능
1	+	DC 24V +
2	-	DC 24V -
3	—	없음

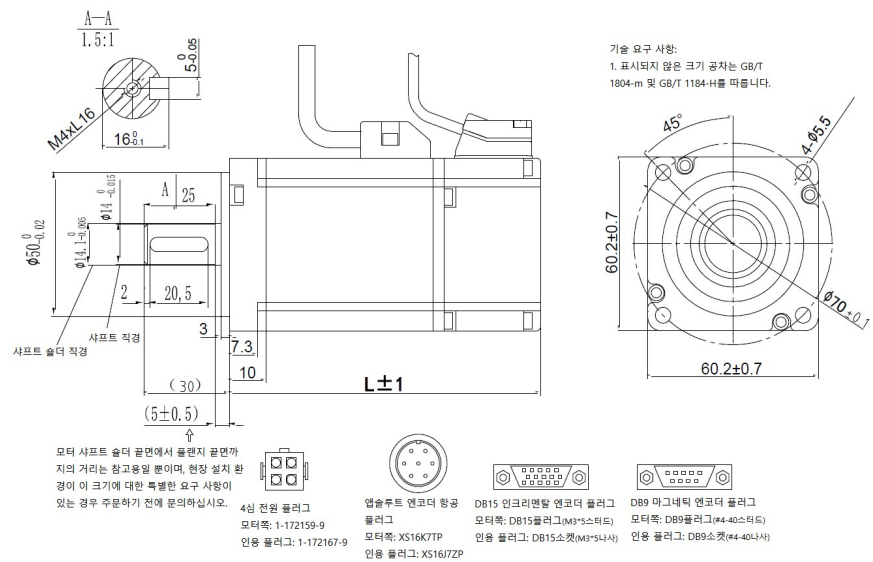
Servo Motor Dimensions

40 플랜지 모터 외형 치수



모델	L (mm)	무게 (kg) / 브레이크 제외
SMSA-101*31***	90	0.47

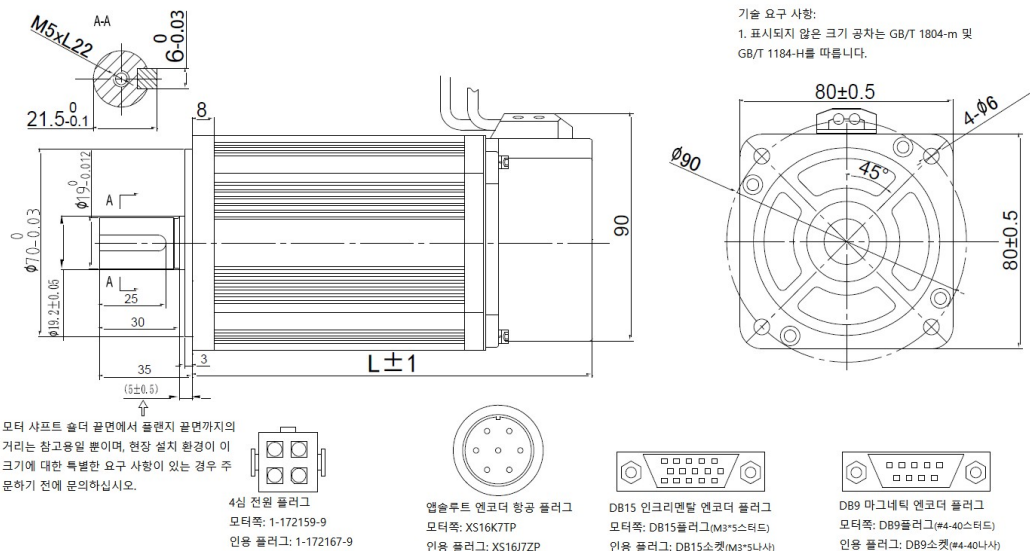
60 플랜지 모터 외형 치수



모델	L (mm)	L (mm) 브레이크 포함	무게 (kg) 브레이크 비포함	무게 (kg) 브레이크 포함	비고
SMSA-201*32***	116	157	1.16	1.56	샤프트 끝 나사 구멍 크기: M4 × 16
SMSA-401*32***	141	182	1.6	2.1	

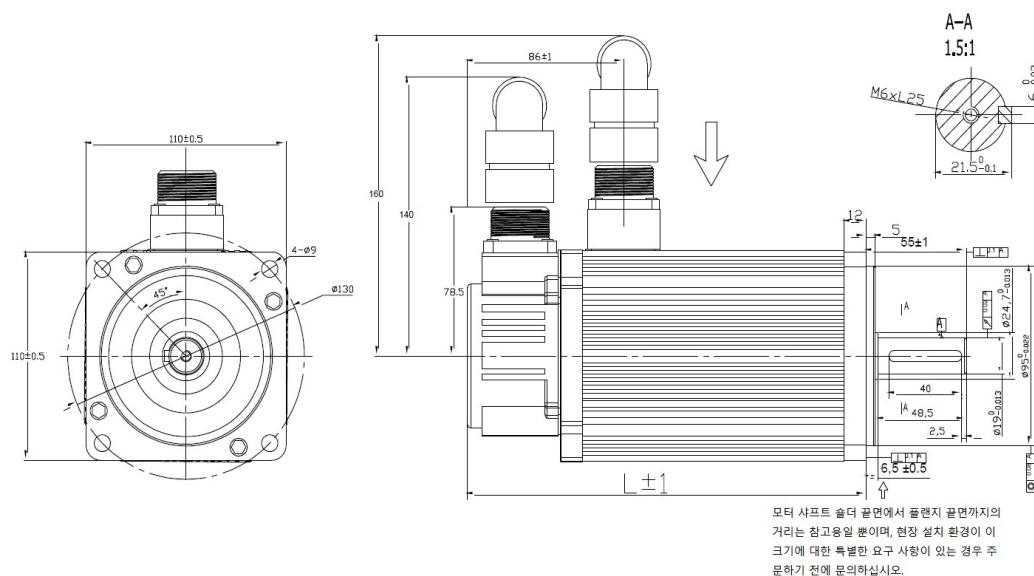
Servo Motor

80 플랜지 모터 외형 치수



모델	L (mm)	L (mm) 브레이크 포함	무게 (kg) 브레이크 비포함	무게 (kg) 브레이크 포함	비고
SMSA-751**3***	151	191	2.9	3.6	샤프트 끝 나사 구멍 크기: M5 × 22
SMSA-102**3***	179	219	3.9	4.6	
SMSB-102**3***	191	231	4.1	4.8	

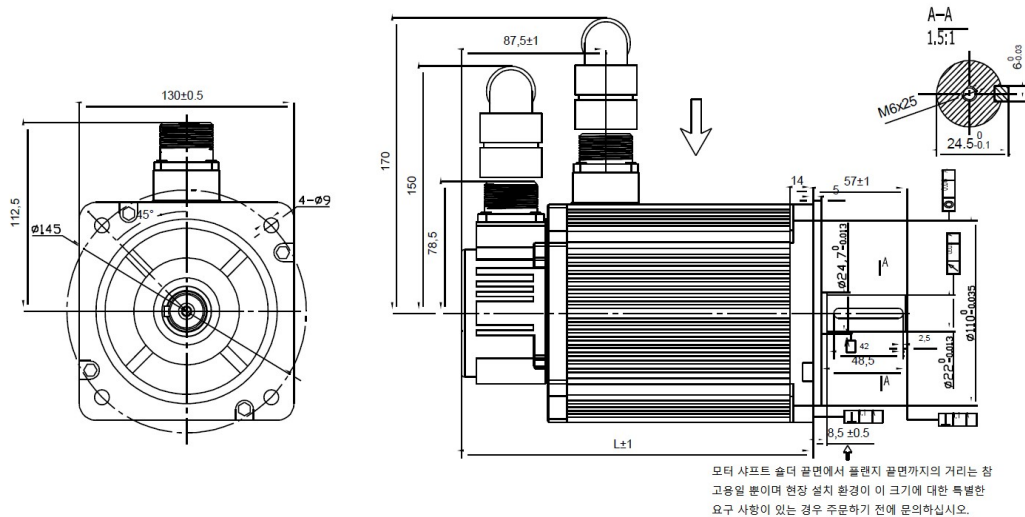
110 플랜지 모터 외형 치수



모델	L (mm)	L (mm) 브레이크 포함	무게 (kg) 브레이크 비포함	무게 (kg) 브레이크 포함	비고
SMSA-122**5*** SMMA-801**5***	189	243	6	7.9	샤프트 끝 나사 구멍 크기: M6 × 25
SMSA-182**5*** SMMA-122**5***	219	273	7.9	9.8	

Servo Motor

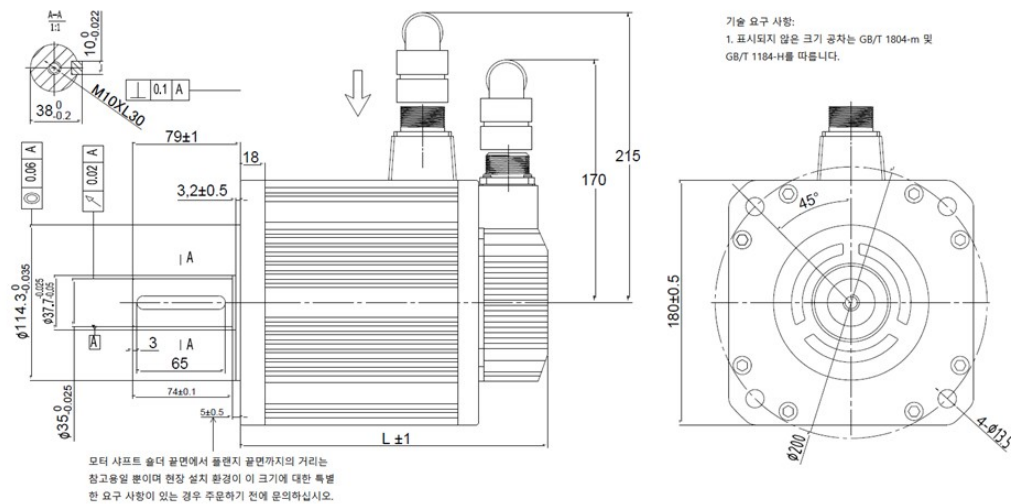
130 플랜지 모터 외형 치수



모델	L (mm)	L (mm) 브레이크 포함	무게 (kg) 브레이크 비포함	무게 (kg) 브레이크 포함	비고
SMMA-851**7***	166	217	6.2	8.75	샤프트 끝 나사 구멍 크기: M6 × 25
SMSA-152**7*** SMMA-102**7***	171	222	6.6	9.15	
SMMA-132**7*** SMSB-152**7***	179	230	7.4	9.95	
SMSA-232**7*** SMMA-152**7*** SMMB-122**7*** SMSB-202**7***	192	243	8.3	10.85	
SMSA-302**7***	209	260	9.8	12.35	
SMMA-202**7*** SMMB-152**7*** SMLA-102**7*** SMSB-262**7***	213	264	10.2	12.75	
SMMA-312**7*** SMLA-152**37***	231	282	11.7	14.25	
SMMB-232**7***	241	292	12.2	14.75	

Servo Motor

180 플랜지 모터 외형 치수

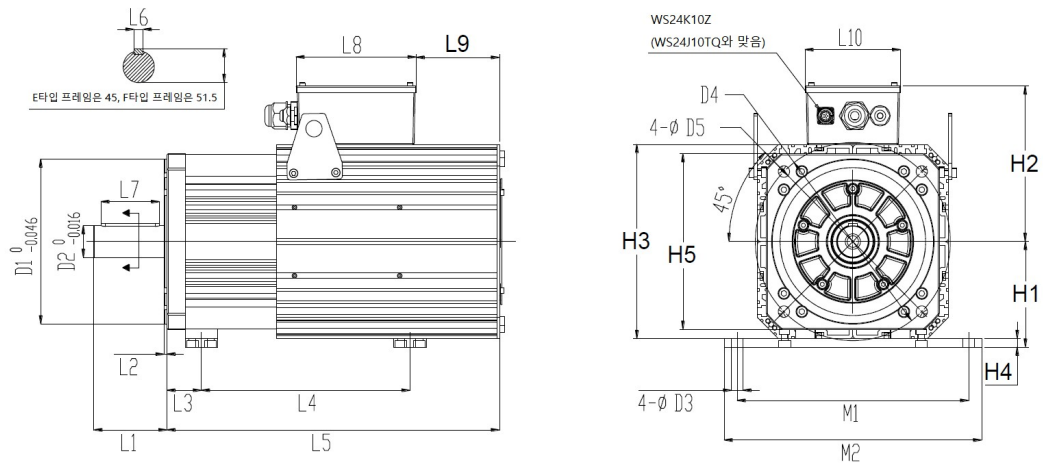


모델	L (mm)	L (mm) 브레이크 포함	무게 (kg) 브레이크 비포함	무게 (kg) 브레이크 포함	비고
SMMA-352**A***	226	298	19.5	24.3	샤프트 끝 나사 구멍 크기: M10 × 30
SMMB-302**A***	232	304	19.9	24.7	
SMSB-502**A***	243	315	22.2	27	
SMMA-452**A***	250	322	23.5	28.3	
SMMB-432**A***	262	334	24.6	29.4	
SMLA-292**A***	262	334	25.5	30.3	
SMMA-752*6A***	288	360	40	43.8	
SMMB-552**A***	292	364	30.5	35.3	
SMLA-372**A***	334	406	38	42.8	
SMMB-752*6A***	346	418	40	44.8	

참고: 180 플랜지 모터에는 일반 모터 시리즈와 팬 시리즈 두 가지가 있습니다. 그 중 팬 시리즈 180 플랜지 모터는 온도 상승을 크게 줄일 수 있으며, 팬 장착 모터의 전체 길이는 일반 모터 본체의 전체 길이(즉, L)를 기준으로 81mm 증가합니다.

Servo Motor

SM15, SM17, SM20, Air-cooling



Base	D1	D2	D3	D4	D5	L1	L2	L3	L6	L7	L8	L9	L10	H1	H2	H3	H4	H5	M1	M2
E	180	42	14	215	14.5	77	5	39	12	56	185	75.5	147	124	200	224	12	200	254	278
F	250	48	18	300	17.5	112	4.5	53	14	90	185	128	147	160	236	294	13	266	356	390

모터 정격 토크 ($\Delta T=100^{\circ}\text{C}$)	68	84	96	130	147	160	196	220	275	330	380	428	481
모터 정격 토크 ($\Delta T=65^{\circ}\text{C}$)	52	64	80	102	118	135	152	185	225	270	307	324	385
Base front edge	E	E	E	E	E	E	E	F	F	F	F	F	F
L4 (mm)	285	312	354	396	436	478	520	317	370	423	476	529	583
L5 (mm)	397	429	471	513	555	597	619	511.5	560.5	609.5	658.5	707.5	756.5

Servo Motor Torque Speed Characteristics

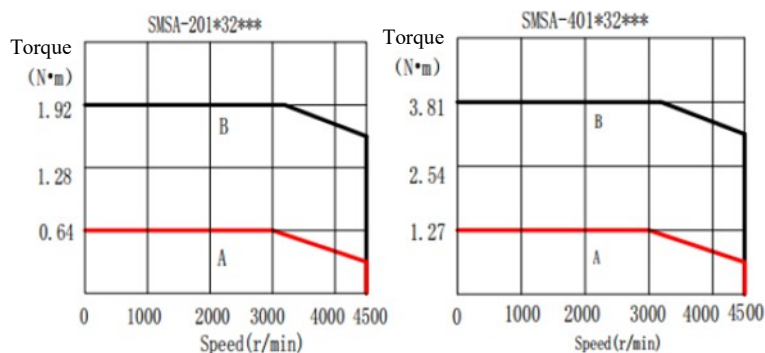
시험 조건:

1. 테스트를 위해 60/80 플랜지 서보 모터는 260mm × 260mm × 28mm 주철 플랜지에 설치, 110/130/180 플랜지 서보 모터는 360mm × 360mm × 38mm 주철 플랜지에 설치함.
2. 일치하는 드라이브를 사용하고 입력 전압은 정격 전압 사용.

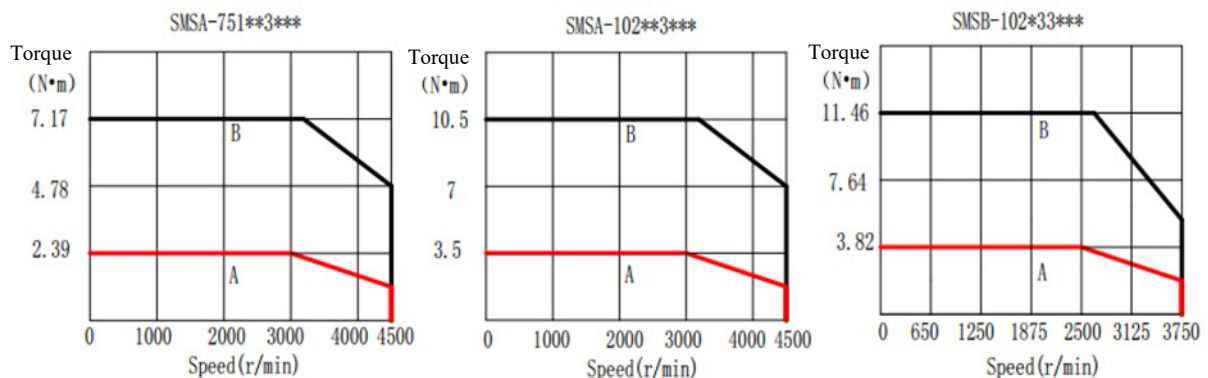
사용주의:

1. 연속 사용 영역(A)과 단기 사용 영역(B)은 입력 구동 전압과 서보 드라이브 전원 라인의 길이에 영향을 받습니다. 입력 드라이브 전압이 낮아지거나 전원 라인이 너무 길어지면 사용 영역이 좁아집니다.
2. 모터를 사용할 때 설치 방법, 설치 장비와의 접촉 면적 또는 사용 환경으로 인해 모터의 온도가 상승할 수 있으며, 모터의 온도 상승은 실제 작동 조건의 영향을 받습니다. 모터의 온도 상승이 요구 사항을 충족하는지 특정 제품을 통해 확인하십시오.

1) 60 플랜지 서보 모터 토크 속도 특성 곡선

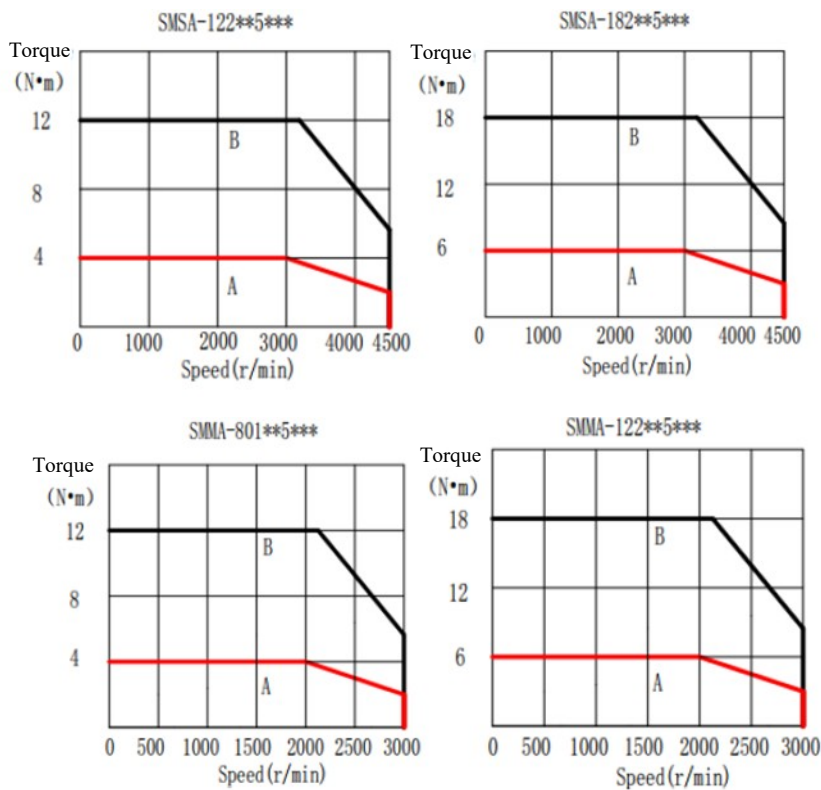


2) 80 플랜지 서보 모터 토크 속도 특성 곡선

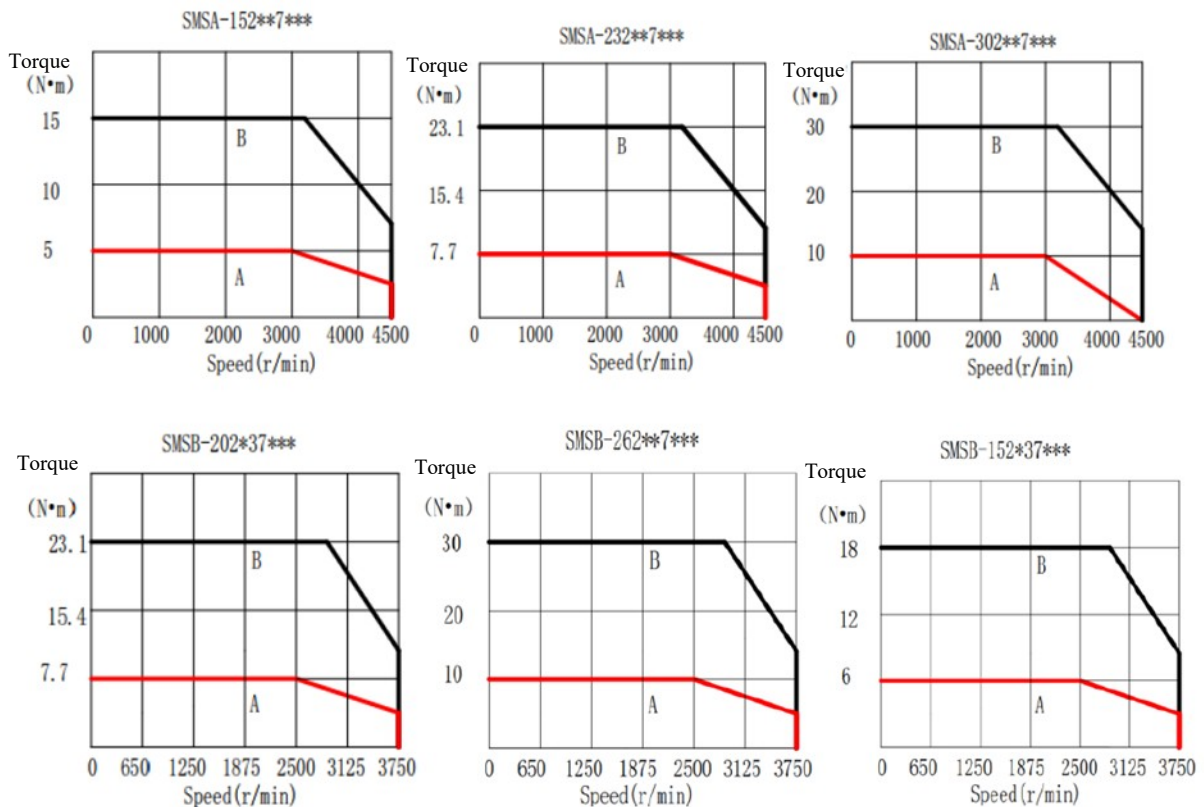


Servo Motor

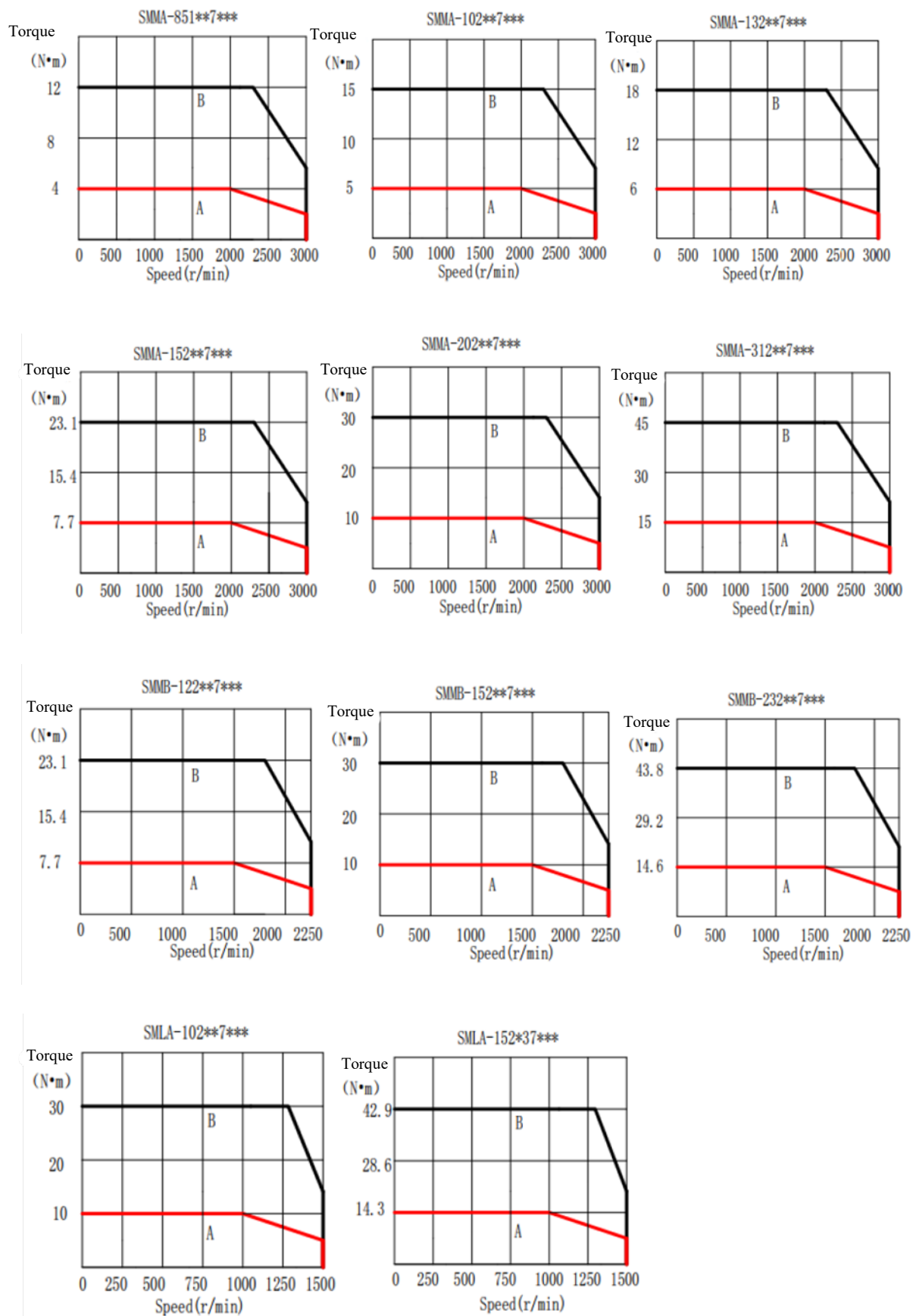
3) 110 플랜지 서보 모터 토크 속도 특성 곡선



4) 130 플랜지 서보 모터 토크 속도 특성 곡선

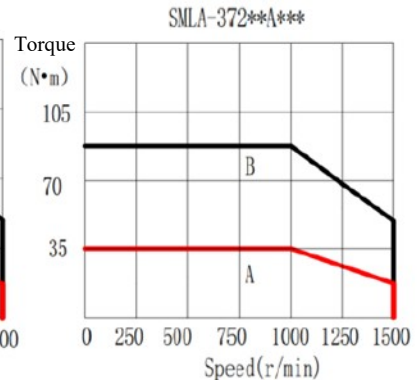
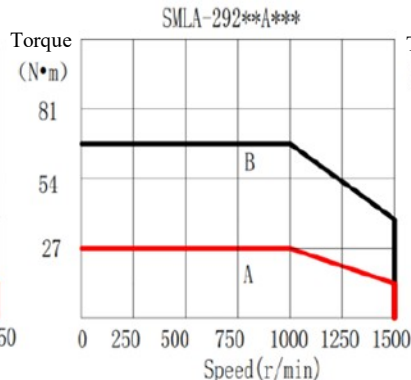
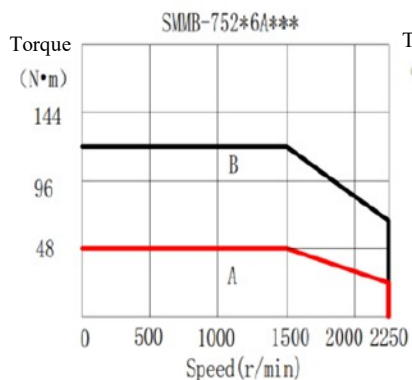
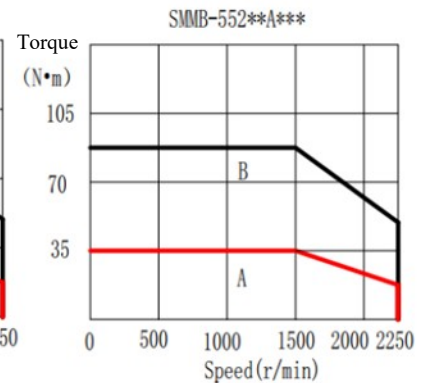
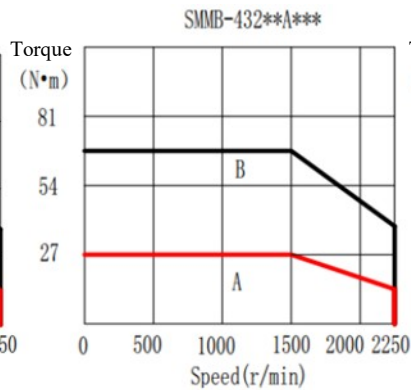
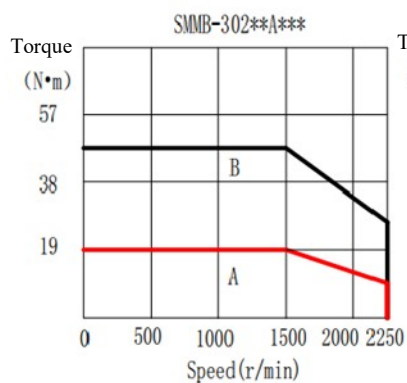
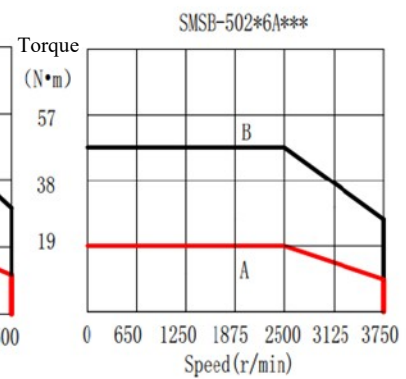
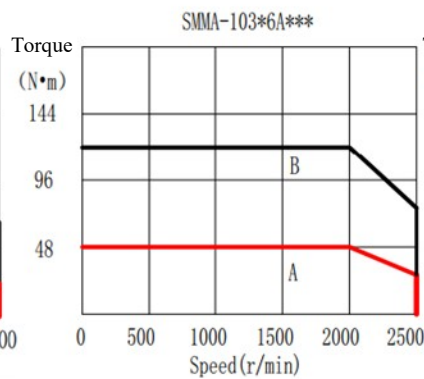
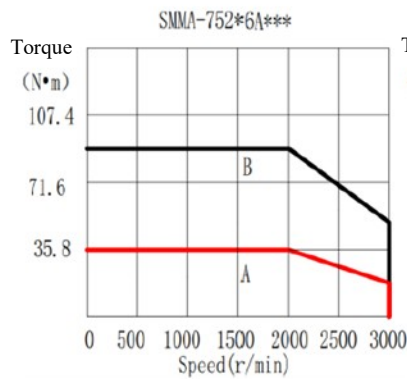
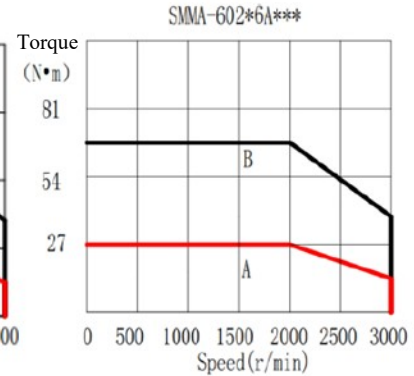
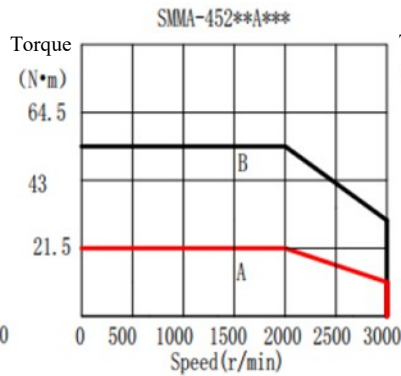
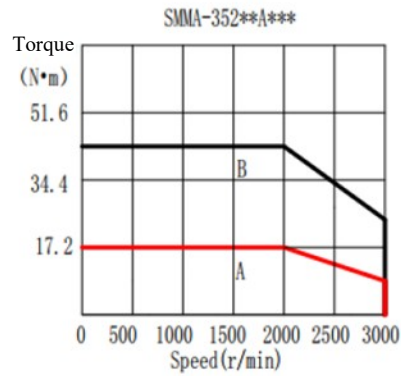


Servo Motor



Servo Motor

5) 180 플랜지 서보 모터 토크 속도 특성 곡선

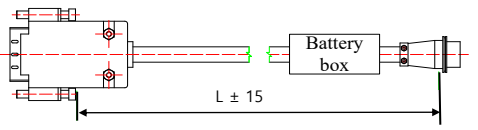
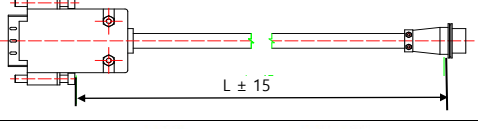
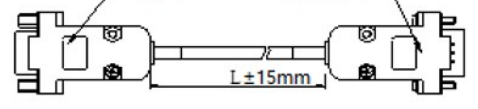


Accessories

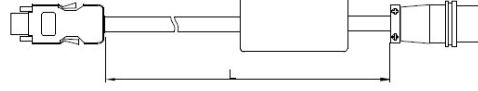
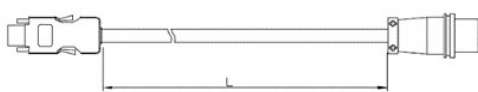
Feedback Cable

Absolute Encoder Cable

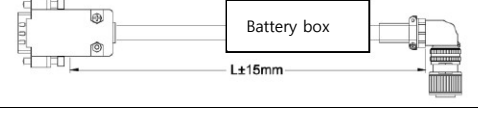
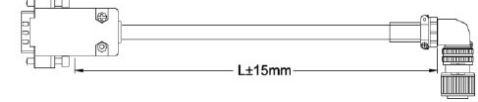
Encoder cable with round plug (80 플랜지 이하의 소형 모터에 적합)

Item	Model	Length	Cable Appearance
Absolute encoder cable	DB9-4BS02-*M-0.2	1-19M	
	DB9-8BS02-*M-0.2	20-50M	
	DB9-4GS02-*M-0.2	1-19M	
	DB9-8GS02-*M-0.2	20-50M	
	DB9-4GS05-*M-0.2	1 — 19m	
	DB9-8GS05-*M-0.2	20 — 50m	

Encoder cable with round plug (M0 구조 모델, 90 플랜지 이하 모터에 적합)

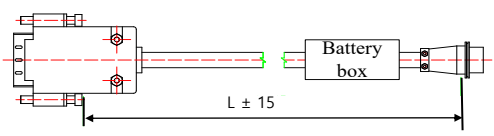
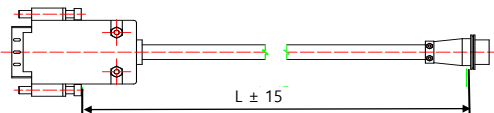
Item	Model	Length	Cable Appearance
Absolute encoder cable	1394-4BS02-3M-0.2	3m	
	1394-4BS02-5M-0.2	5m	
	1394-4BS02-10M-0.2	10m	
	1394-4GS02-3M-0.2	3m	
	1394-4GS02-5M-0.2	5m	
	1394-4GS02-10M-0.2	10m	

Encoder cable with L-shaped aviation plug (110, 130 및 180 플랜지 모터에 적합)

Item	Model	Length	Cable Appearance
Absolute encoder cable	DB9-4BS03-*M-0.2	1-19m	
	DB9-8BS03-*M-0.2	20-50m	
	DB9-4GS03-*M-0.2	1-19m	
	DB9-8GS03-*M-0.2	20-50m	

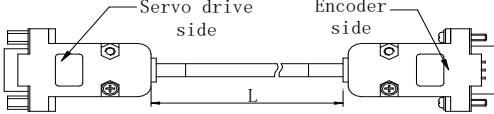
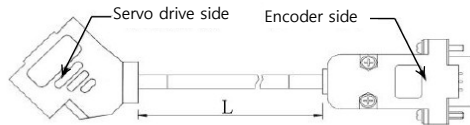
SD20 Accessories

Encoder cable with type I aviation plug (베이스 E 및 F가 있는 모터에 적합)

Item	Model	Length	Cable Appearance
Absolute encoder cable	DB9-4BS01-*M-0.2	1-19m	
	DB9-8BS01-*M-0.2	25-50m	
	DB9-4GS01-*M-0.2	1-19m	
	DB9-8GS01-*M-0.2	25-50m	

Incremental Encoder Cable

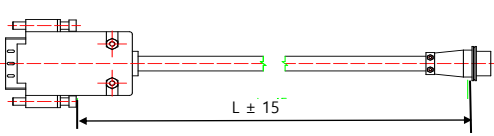
Encoder cable with DB plug type (80 플랜지 이하의 소형 모터에 적합)

Item	Model	Length	Cable Appearance
Incremental encoder cable	DB15-15GP02-*M-0.2	1-19m	
	DB15-8GP02-*M-0.2	1-19m	
	DB15-11GP02-*M-0.2	20-50m	
	DB15L-8GP02-*M-0.2	25m 이하	

Encoder cable with L-shaped aviation plug (110, 130 및 180 플랜지 모터에 적합)

Item	Model	Length	Cable Appearance
Incremental encoder cable	DB15-15GP01-*M-0.2	1-19m	
	DB15-8GP01-*M-0.2	1-19m	
	DB15-10GP01-*M-0.2	1-19m	
	DB15-11GP01-*M-0.2	20-50m	

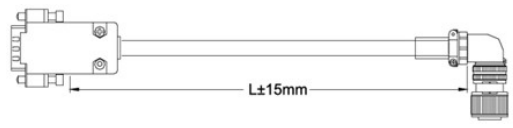
Encoder cable with type I aviation plug (베이스 E 및 F가 있는 모터에 적합)

Item	Model	Length	Cable Appearance
Incremental encoder cable	DB15-15GP03-*M-0.2	1-19m	
	DB15-8GP03-*M-0.2	1-19m	
	DB15-10GP03-*M-0.2	1-19m	
	DB15-11GP03-*M-0.2	20-50m	

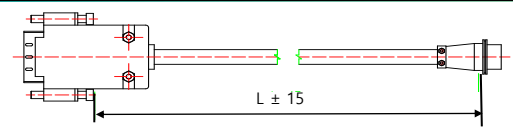
SD20 Accessories

Resolver Feedback Cable

Encoder cable with L-shaped aviation plug (11kW 미만의 중소형 모터에 적합)

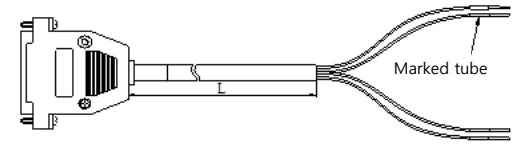
Item	Model	Length	Cable Appearance
Resolver feedback cable	DB9-8GR01-*M-0.2	1-19M	
	DB9-8GR01-*M-0.2	20-50M	

Encoder cable with I-type aviation plug (베이스 E 및 F가 있는 모터에 적합)

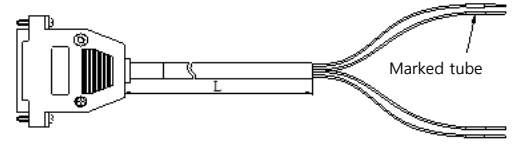
Item	Model	Length	Cable Appearance
Resolver feedback cable	DB9-8GR02-*M-0.2	1-19m	
	DB9-10GR02-*M-0.2	20-50m	

Control Signal Cable

아날로그 속도, 토크 모드 제어 케이블

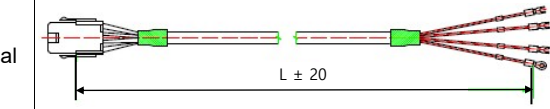
Item	Model	Length	Cable Appearance
Control signal cable	DB44-15AI-1M-0.2	1M	
	DB44-15AI-2M-0.2	2M	
	DB44-15AI-3M-0.2	3M	

위치 모드 제어 케이블

Item	Model	Length	Cable Appearance
Control signal cable	DB44-15PC-1M-0.2	1M	
	DB44-15PC-2M-0.2	2M	
	DB44-15PC-3M-0.2	3M	

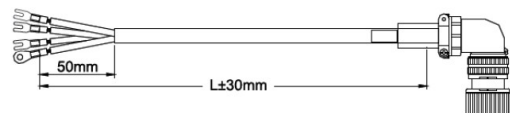
Power Cable

플랜지가 80 이하인 저전력 서보 모터에 적합

Item	Model	Length	Cable Appearance
Power cable	DB4-4P0-length-diameter	According to actual	

SD20 Accessories

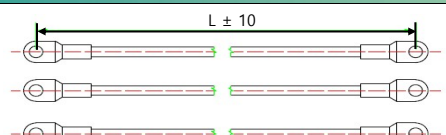
110, 130, 180 플랜지 서보 모터에 적합

Item	Model	Length	Cable Appearance
Power cable	HK4*-4P0-length-diameter	According to actual	

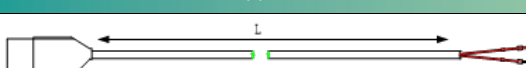
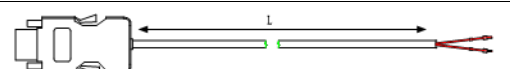
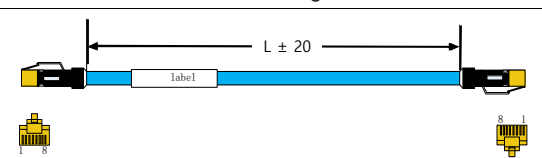
[참고 1]: 굽힘 방지 케이블은 "***-4P0-length-diameter-D"와 같이 -D를 추가해야 합니다. 드라이브 측 단자 선택 시 검은색 단자는 -S를 추가해야 하며 압착 러그에는 필요하지 않습니다.

[참고2]: Aviation plug는 플랜지가 110 이상인 모터에 사용되며, 플랜지가 180인 모터는 모터 전류가 크기 때문에 더 두꺼운 선경이 필요합니다. 다른 aviation plug와 구분하기 위해 "HK4B-4P0-length-diameter"로, 180 플랜지 이외의 모터 전원 케이블은 "HK4A-4P0-length-diameter"로 명칭이 변경되었습니다.

베이스 E 및 F가 있는 중간 및 고전력 모터에 적합

Item	Model	Length	Cable Appearance
Power cable	ZL4-4P0-length-diameter	According to actual	

Other Cables

Item	Model	Length	Cable Appearance
Communication cable	1394-2TR-length-0.2	According to actual	
	1394-2DK-length-0.2		
Motor brake cable	HK3-2BR-length-0.75		Suitable for 80, 90, 110, 130, 180 flange motors
	DB2-2BR-length-0.75		Suitable for SM series 60 flange and SD series 80 flange motors
Industrial Ethernet shielding cable	SC-ECT-**M-C		

EtherCAT 통신 케이블은 Ethernet Category 5(100BASE-TX) 네트워크 케이블 또는 고강도 실드 네트워크 케이블을 사용합니다. 서보 드라이브를 사용할 때 이중 실드된 네트워크 케이블 사용해야 합니다. SD20-E 시리즈 EtherCAT 서보를 사용할 때 두 장치 사이의 단일 네트워크 케이블 길이는 50m를 초과하지 않아야 하며 우수한 성능의 실드 네트워크 케이블은 마스터 스테이션과 서보 시스템의 간섭 방지 기능을 향상시킬 수 있습니다. 열악한 작업 조건에서는 Cat6e 네트워크 케이블을 사용하는 것을 권장합니다.

Braking Resistor

220V 서보 드라이브 프레임에 따른 built-in braking resistor의 사양과 external braking resistor의 최소 저항 값

서보 드라이브 프레임	Built-in braking resistor 전력과 저항 값	External braking resistor 최소 저항 값	External braking resistor 권장 사양
M1	—	40Ω	60Ω / 200W
M2	50W / 50Ω	15Ω	40Ω / 400W
M3	100W / 20Ω	10Ω	15Ω / 1000W
M4	260W / 15Ω	10Ω	15Ω / 2000W

380V 서보 드라이브 프레임에 따른 built-in braking resistor의 사양과 external braking resistor의 최소 저항 값

서보 드라이브 프레임	Built-in braking resistor 전력과 저항 값	External braking resistor 최소 저항 값	External braking resistor 권장 사양
M2	50W / 50Ω	50Ω	50Ω / 1000W
M3	100W / 60Ω	50Ω	50Ω / 1000W
ML3 / M4	—	20Ω	40Ω / 1000W
M5	—	10Ω	40Ω / 1000W
M6	—	20Ω	20Ω / 2200W
M7	—	15Ω	15Ω / 4000W
M8	—	12Ω	12Ω / 6000W
M9	—	8Ω	8Ω / 9000W



SERVO DRIVE / MOTOR



Servo Drive:

- Frequency response: Up to 3.2kHz
- Pulse frequency: Max 4MHz
- 23-bit absolute encoder, 8.38M pulse per round
- Dual-core processor, smooth motor control, no vibration at stop
- Built-in PLC and electronic CAM function

Servo Motor:

- Incremental encoder, Absolute encoder, Resolver
- Power: 0.2kW – 75kW
- Torque rating: 0.64N·m – 321N·m
- Speed: 1000r/min, 1500r/min, 1700r/min, 2000r/min, 2500r/min, 3000r/min
- High efficiency, high response, small size, low inertia, high torque

LDS10 SERIES 48V DC SERVO

- 24 ~ 60 VDC
- Small size, high stability, convenient networking
- Supports custom CAN, CANOpen, MODBUS, pulse and analog
- Built-in CANOpen bus communication debugging and monitoring of products
- Rich interface configuration, up to 5-way DI, 4-way DO, built-in braking unit and brake control

- Complete supporting host computer software to realize all-round remote
- 2-way analog input and 2-way high speed pulse input can realize precise PWM speed regulation and pulse frequency speed regulation
- Widely used in logistics storage, handling systems, sorting systems, medical equipment, and other fields that have high requirements for voltage and volume.



INVERTER 0.4kW—400kW



E600:

- Best performance/cost ratio
- Compact design, easy to integrate in your environment
- Easy setup: Simple set of optimized parameters for all basic functions and applications
- PID and HVAC functions — safety integrated — MODBUS — open for networking
- Internal EMC filter as standard
- Economical mass production on high automated and dedicated SMT lines
- General purpose drive — made for worldwide market

E2100:

- DSP-based high-tech motor control concept — ready for V/Hz, sensorless vector, CLV, PMSM control
- Intelligent autotuning functions
- Flexible inverter control, dual high resolution analog input, free mapping for all I/O channels
- Ready for all commonly used fieldbus systems
- Universal parameter-set for all kinds of industrial and residential applications
- Smart PC-tools for inverter control, parametrization and troubleshooting
- Parameter-duplication stick
- EMC filter (C3 class) integrated, optional C1 footprint filter

PUMP INVERTER 0.4kW—400kW



Overview:

- Smart pump software for all Eura AC Drives
- Cover protection degree from IP20 to IP67
- Single pump control, multi pump control and cascade control without external master controller

Protection functions:

- Leakage detection
- Dry run protection
- Filling protection

Auxiliary functions:

- Water flow detection
- Pump cleaning
- Manual/auto control
- Antirust and Antifreeze
- Time control mode
- Autotuning solar pump
- User macro





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