

6 AC SERVO MOTOR

6.1 AC SERVO MOTOR

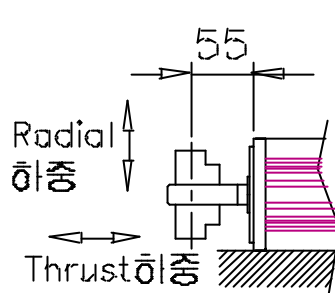
6.1.1

AC SERVO MOTOR , 가 MOTOR 300% .

6.1.2 RADIAL , THRUST

AC SERVO MOTOR [6-1] .
(RADIAL 가 .)

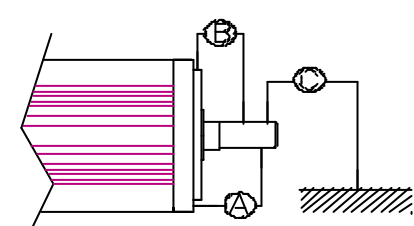
[6-1] RADIAL , THRUST

MOTOR		RADIAL		THRUST		
		N	kg	N	kg	
FMA-TF05	Taper	490	50	98	10	
	Straight	588	60			
FMA-TF09	Taper	490	50	98	10	
	Straight	588	60			
FMA-TF13	Taper	490	50	98	10	
	Straight	686	70			
FMA-KF08	Taper	490	50	98	10	
	Straight	588	60			
FMA-KF10	Taper	490	50	98	10	
	Straight	588	60			
FMA-KF15	Taper	490	50	98	10	
	Straight	686	70			

6.1.3

AC SERVO MOTOR [6-2] .

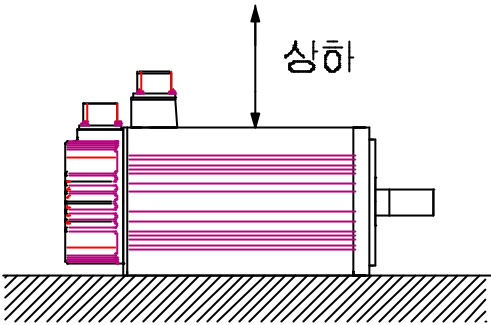
[6-2]

	(T. I. R)	
FLANGE (A)	0.04mm	
FLANGE FITTING (B)	0.04mm	
(C)	0.02mm	

() T. I. R : Total Indicator Reading

6.1.4

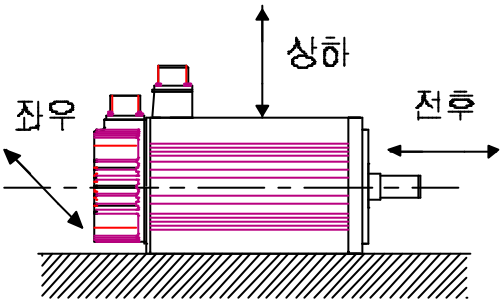
MOTOR , 가 가 10G, 2
 . (6-1)
 가 가



[6-1]

6.1.5

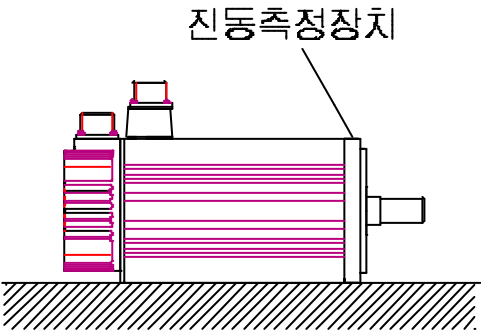
MOTOR , . 3 가 , 가
 2.5G . (6-2)



[6-2]

6.1.6

AC SERVO MOTOR V15 . (6-3)



[6-3]

7

7.1

- 1) 가 NAME PLATE
2) 가 .
3) MOTOR
(,BRAKE)
4) 가 .

7.2

AC SERVO MOTOR FLANGE 가

. . 가 .

7.3

AC SERVO MOTOR

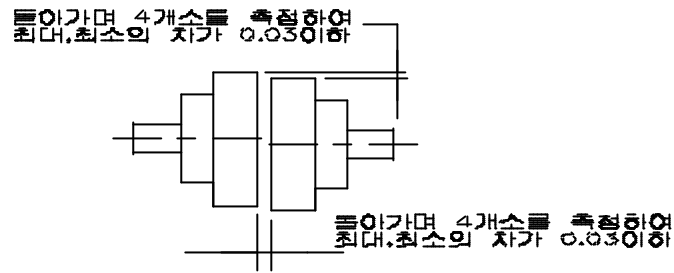
- 1) GAS, GAS 가 .
- 2) 0 +40 , 80 % RH(Max) (, -20 ~ +80)
- 3) , 가 .
- 4) 가 .

AC SERVO MOTOR 가 가 .
COVER

7.4

MOTOR , BEARING 가 . COUPLING . (7-1)

[7-1]



7.5 BEARING

AC SERVO MOTOR RADIAL , THRUST 가
RADIAL , THRUST [6-1]

7.6

- 1) , , , 가 가.
- 2) 가.
- 3) OIL-SEAL OIL-SEAL 가 가.
- 4) AC SERVO DRIVE AC 200 ~ 230[V]+10 /15[%] 가.
- 5) r, t 가 5
- 6) R.S.T 가 .
- 7) SVONEN (CN1 ~ 10) Motor 가 .
- 8) , 가 .
- 9) 가 .

(!)

AC SERVO MOTOR

가 가

8

8.1 AC SERVO MOTOR

AC SERVO MOTOR

. [8-1]

AC SERVO MOTOR

가

[8-1] AC SERVO MOTOR

			LEVEL 가
		AIR	
	1	500V Megger	10M
OIL-SEAL	5000		要
	20000 5		

8.2 AC SERVO DRIVE

1)

1

가

, 1

,	1	,	
	1	,	
,	1	,	

2)

가

		.
	7 ~ 8	()
	-	
	10	
	5	()

()

* : 30
 * : 80 %
 * : 20 /

9

9.1 AC SERVO MOTOR

[10-1]

[10-1]

MOTOR 가	MOTOR	MOTOR LEAD TESTER	
	가		MOTOR 가 MOTOR
	MOTOR	MOTOR LEAD TESTER	MOTOR
MOTOR		MOTOR LEAD	
MOTOR 가	가	가 40 가	40
	MOTOR	MOTOR	MOTOR

	가		MOTOR 가 MOTOR
	BEARING	BEARING	
		가 , , 가	MAKER

9.2 AC SERVO DRIVE

ALARM

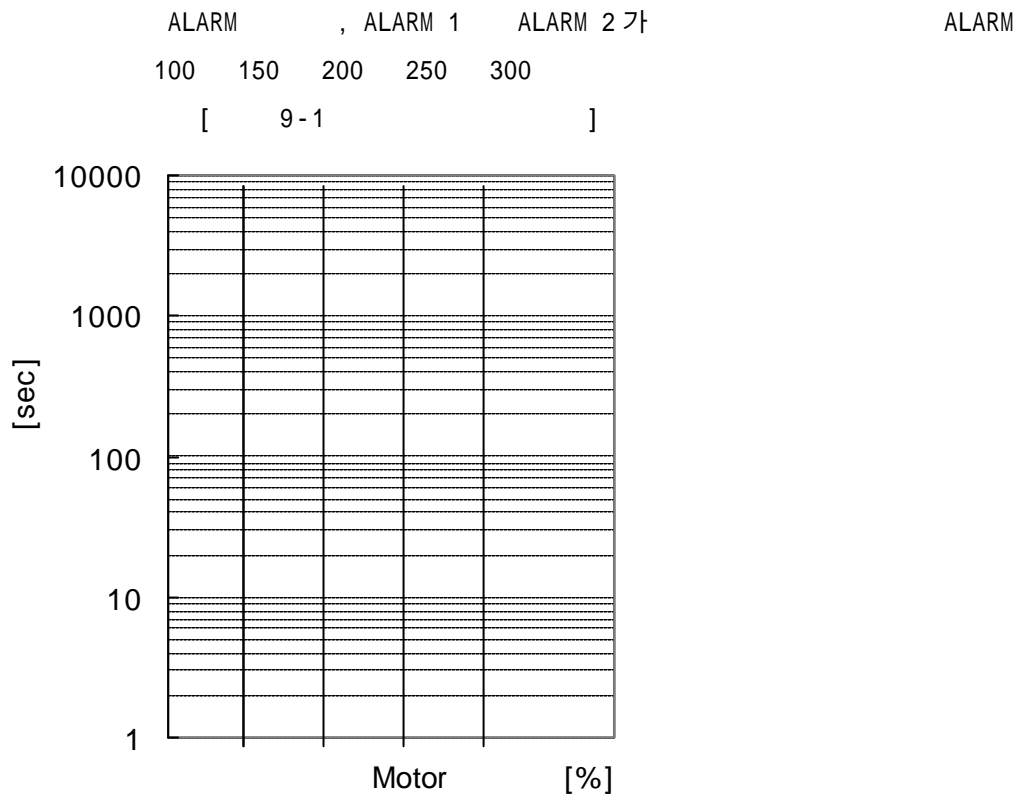
NOT RDY	ON	3 OFF	3
NORMAL			
PARA ERR		EEPROM	
OS		,	
OL			
LINE		,	
FOL ERR	()	가 , , ,	
CMD FRQ ()			가 300kHz 가
OV		, GD ²	가 가
IPM ERR	IPM ALARM	, , SMPS	SERVO DRIVE
PWR FAIL		SERVO ON ,	3
EMG		ESTOP	DC 24V ESTOP ON

ALARM 0, ALARM 1, ALARM 2

3

ALARM

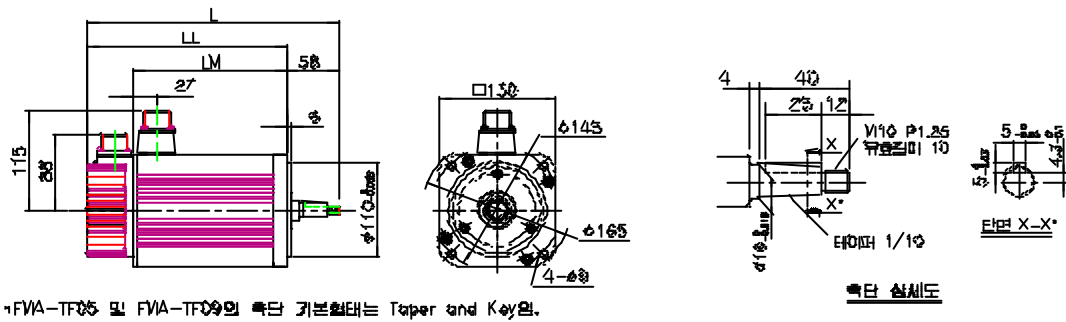
ALARM 0 가 가



10

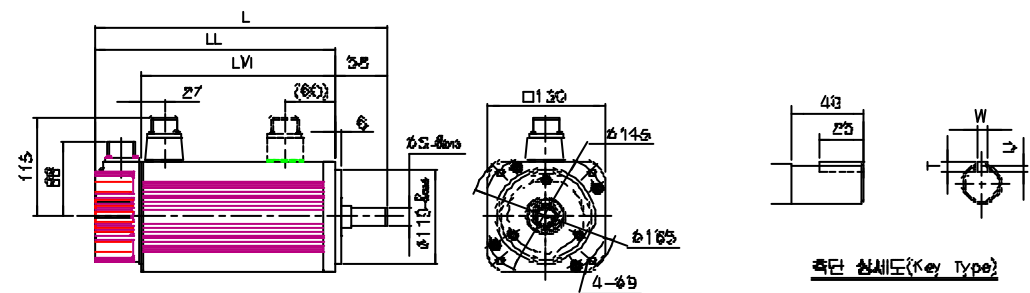
10.1 AC SERVO MOTOR

FMA-TF05, FMA-TF09



*FMA-TF05 및 FMA-TF09의 축단 기본형태는 Taper and Key형.

FMA-TF05~FMA-TF13, FMA-KF08~FMA-KF15
FMA-TF05(B)~FMA-TF13(B), FMA-KF08(B)~FMA-KF15(B)



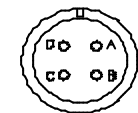
[10-1]

	L	LL	LM					(kg)
				S	T	U	W	
FMA-TF05(B)	274(314)	216(256)	165(205)	19	5	3	5	8.2(10.4)
FMA-TF09(B)	324(364)	266(306)	215(255)	19	5	3	5	11.6(13.8)
FMA-TF13(B)	384(424)	326(366)	275(315)	22	6	3.5	6	15.8(18.0)
FMA-KF08(B)	284(324)	226(266)	175(215)	19	5	3	5	8.8(11.0)
FMA-KF10(B)	324(364)	266(306)	215(255)	19	5	3	5	11.6(13.8)
FMA-KF15(B)	384(424)	326(366)	275(315)	22	6	3.5	6	15.8(18.0)

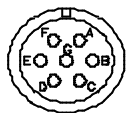
* ()

Brake

<Motor측 Connector 결선사양>



MS3102A20-4P
(표준형)



MS3102A20-15P
(Brake 부착형)

구분	구분	PIN 번호
Motor Wire	U	A
	V	B
	W	C
Ground	D	
Brake Wire	+	E
	-	F

Motor Cable Connector 접속도

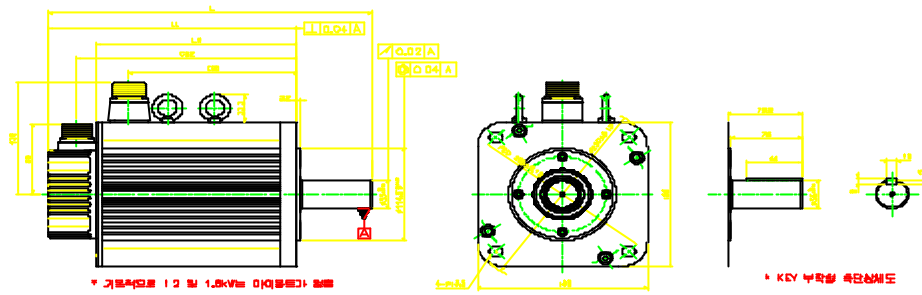


MS3102A20-29P

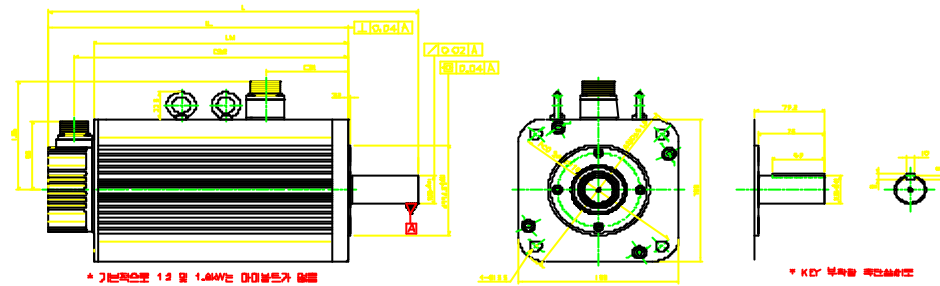
Encoder 신호	PIN 번호	Encoder 신호	PIN 번호
A	A	U	K
A'	B	U'	L
B	C	V	M
B'	D	V'	N
Z	E	W	P
Z'	F	W'	R
0V	G	SHIELD	J
+5V	H		

Encoder Cable Connector 접속도

FMA-LF12 ~ FMA-LF30, FMA-TF20 ~ FMA- TF44()

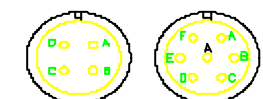


FMA-LF12 ~ FMA-LF30, FMA-TF20 ~ FMA-TF44(Brake)



[10-2]

(Model)	L	LL	LM	CB1	CB2	(Weight)
FMA-LF12(B)	342(416)	263(337)	212(286)	178(75)	203(277)	17.2(24.7)
FMA-LF20(B)	402(476)	323(397)	272(346)	238(75)	263(337)	27.4(34.9)
FMA-LF30(B)	482(556)	403(477)	352(426)	318(392)	343(417)	38.3(45.8)
FMA-TF20(B)	342(416)	263(337)	212(286)	178(75)	203(277)	17.2(24.7)
FMA-TF30(B)	402(476)	323(397)	272(346)	238(75)	263(337)	27.4(34.9)
FMA-TF44(B)	482(556)	403(477)	352(426)	318(392)	343(417)	38.3(45.8)



MS3102A22-22P MS3102A24-10P
(표준형) (Brake 부속임)
Motor Cable Connector 접속도

핀	핀
번호	번호
Motor Wire	U A
	V B
	W C
Ground	D
Brake Wire	+ E
	- F

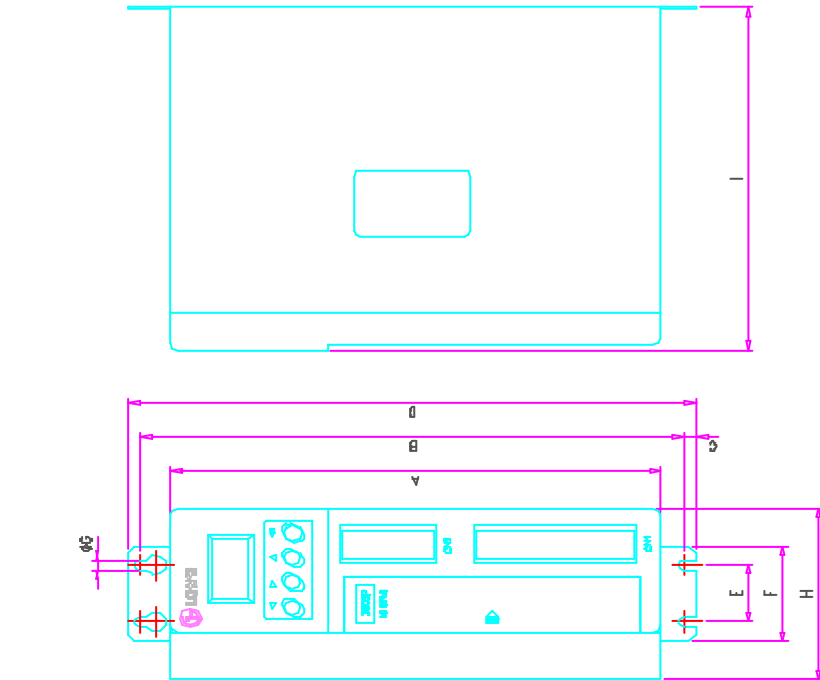


(MS3102A20-29P)
Encoder Cable Connector 접속도

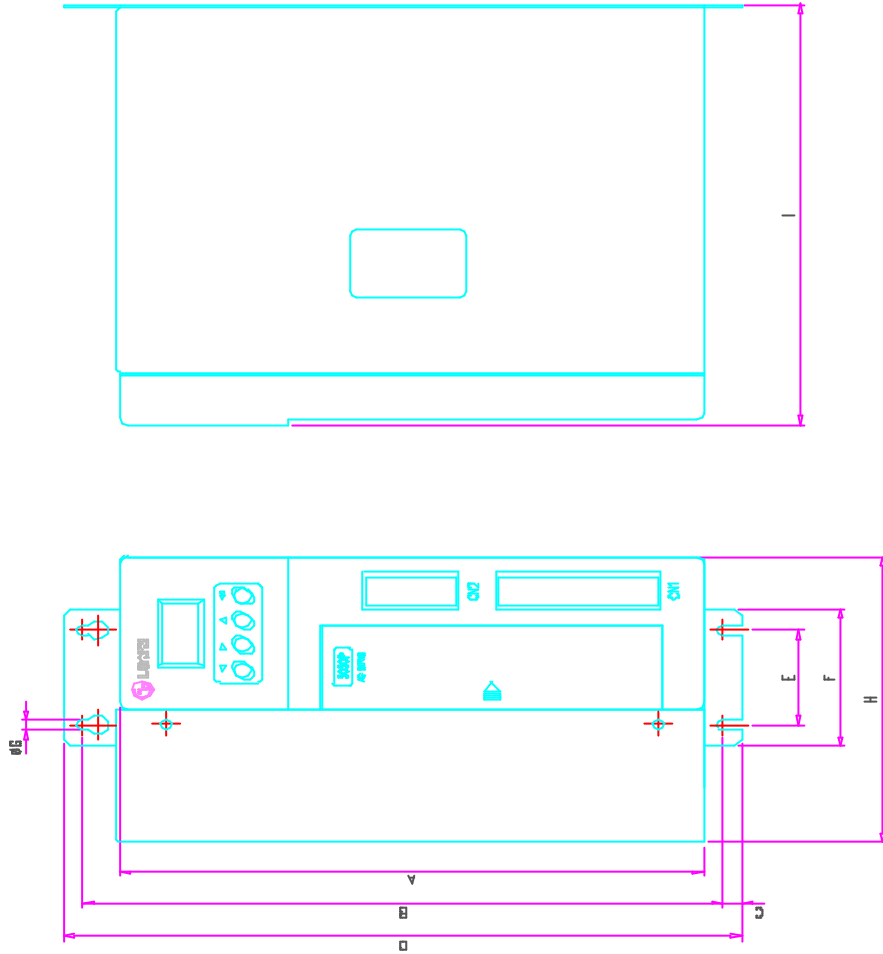
Encoder Wire	핀 번호	Encoder Wire	핀 번호
A	A	U	K
B	B	V	L
C	C	W	M
D	D	X	N
E	E	Y	P
F	F	Z	R
G	G	SHIELD	J
+5V	H		

10.2 AC SERVO DRIVE

외형도 A



외형도 B

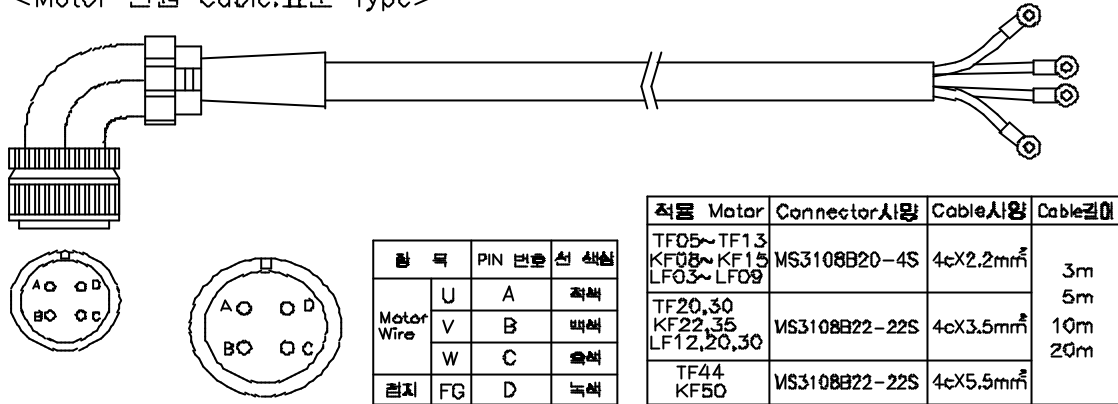


제 품 명	A	B	C	D	E	F	G	H	I	제품중량 (kg)	냉각방식		비 고
											자연	외형도 A	
FDA3005P	210	233	5	243	30	50	5	90	180	3.0	자연		외형도 B
FDA3010P	210	233	5	243	30	50	5	90	180	3.0	자연		
FDA3015P	250	275	8	290	50	72	5	122	214	5.0	자연		
FDA3020P	250	275	8	290	50	72	5	152	214	5.5	강제냉각		
FDA3030P	250	275	8	290	50	72	5	152	214	6.0	강제냉각		
FDA3045P	250	275	8	290	50	72	5	152	214	6.0	강제냉각		

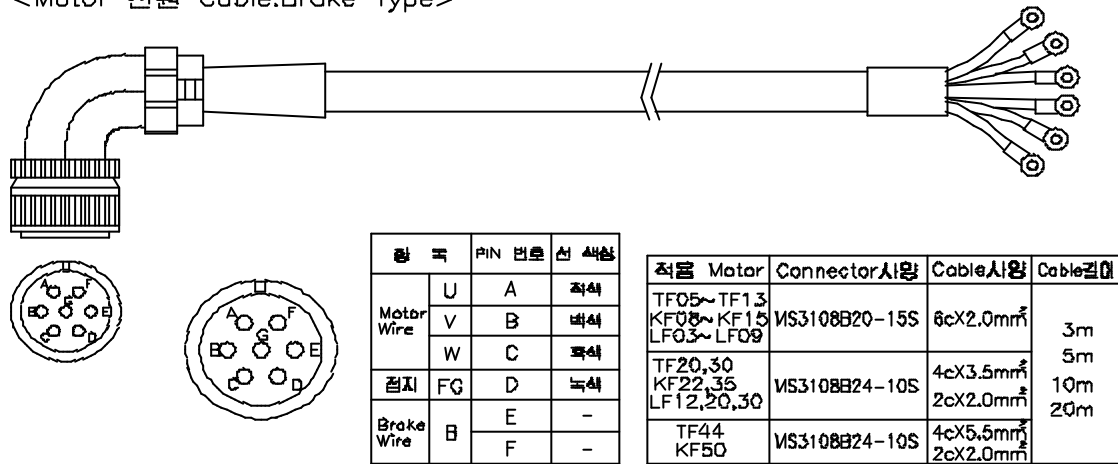
11 OPTION

11.1 AC SERVO MOTOR CABLE

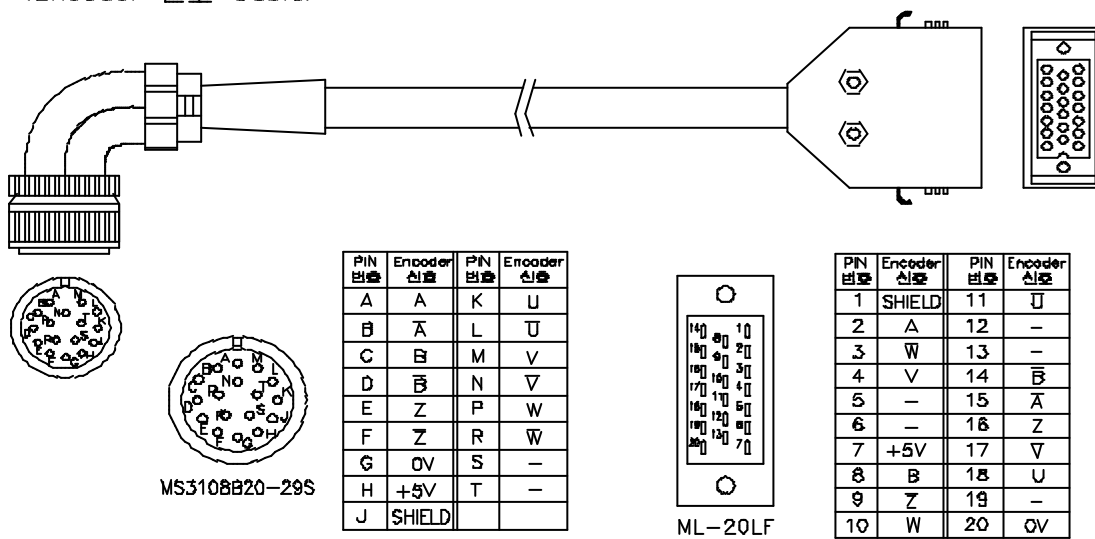
<Motor 전원 Cable:표준 Type>



<Motor 전원 Cable:Brake Type>



<Encoder 신호 Cable>



<Motor측 Connector>

<Driver측 Connector>

11.2 AC SERVO DRIVE

- 1) CN1 (MAKER : HONDA)
- : MR - 50 F (SOLDERING TYPE)
 - : MR - 50 L (CASE)
- 2) CN2 (MAKER : HONDA)
- : MR - 20 F (SOLDERING TYPE)
 - : MR - 20 L (CASE)

11.3

- : OPR - 109 A (BPU - 109 A)
- : AC 200 ~ 220 V
- : DC 90 V, 1 [A]

< BPU-109A >

< BPU-109A >

- () 1. 3,4 .
2. 5,6 BRAKE 5 ~ 10
3. FUSE .

11.4 NOISE FILTER

	FDA3005	FDA3010/3015	FDA3020	FDA3030	FDA3045
NOISE FILTER	NFS-310	NFS-315	NFS-320	NFS-330	NFS-340