

A thick green vertical bar runs down the left side of the page. A green circle is positioned on the bar, with a horizontal line extending from its right edge across the top of the page.

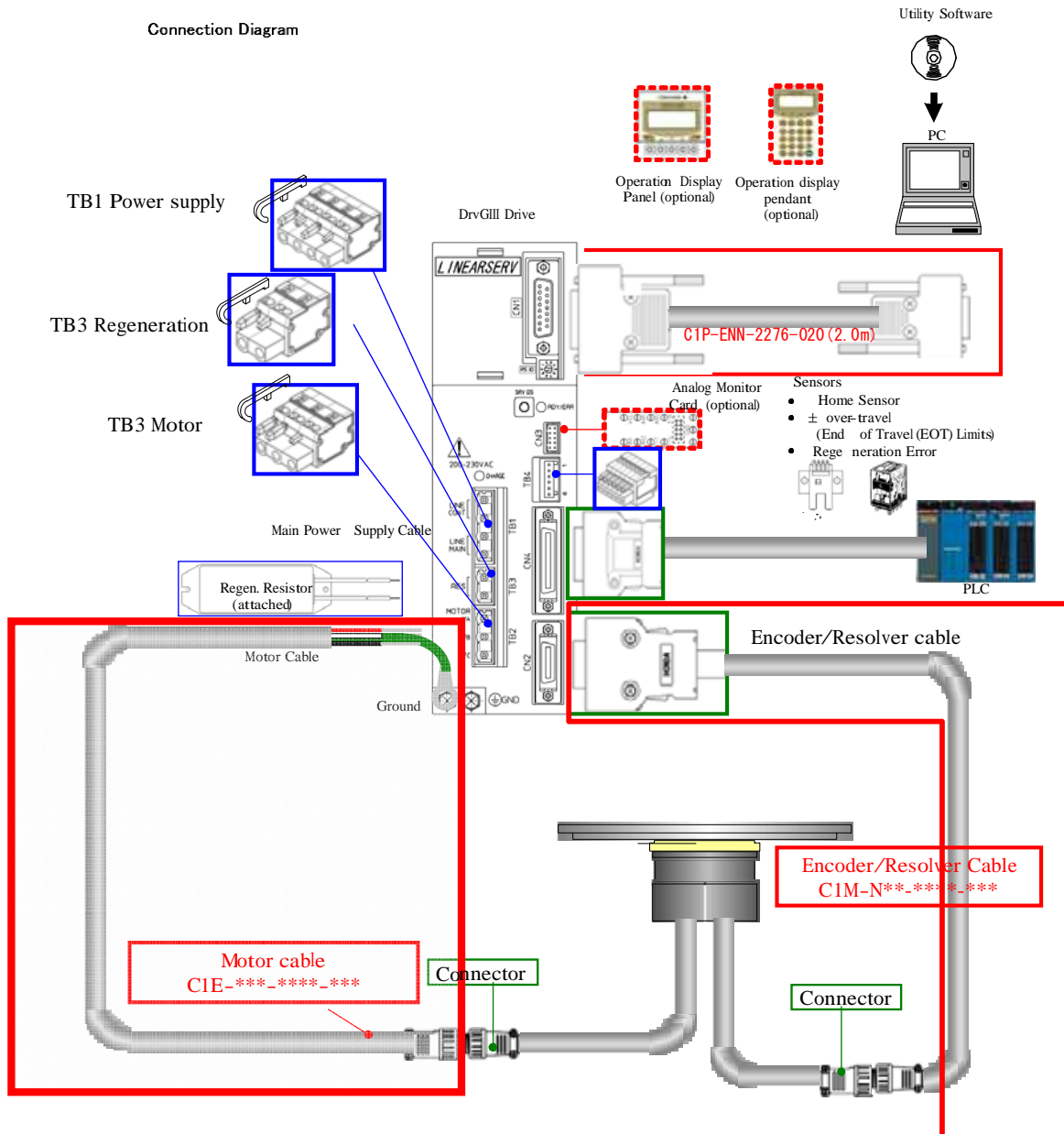
MS code selection guide book

2012년4월17일

System configuration

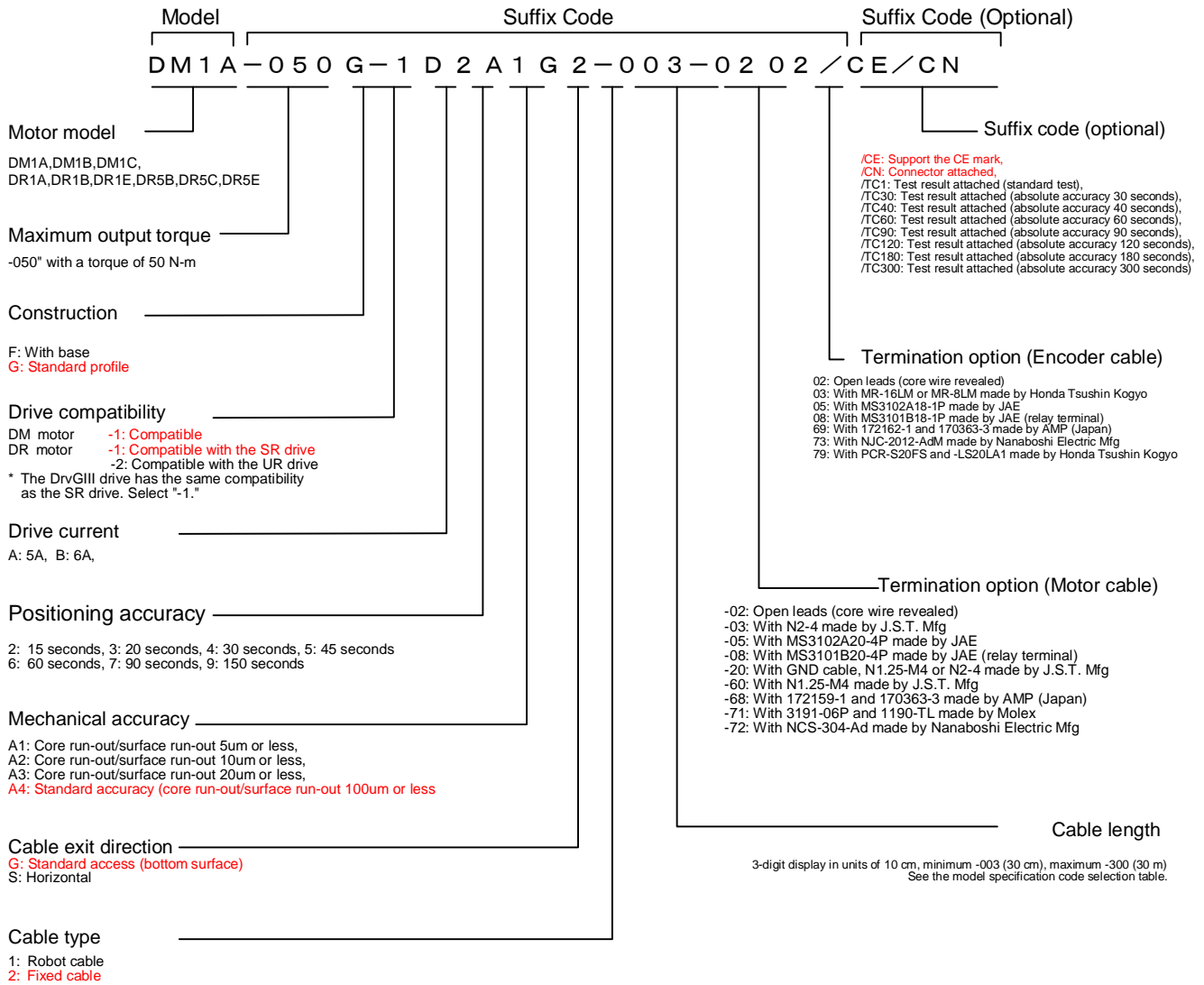
- Standard accessories
- Supplied when order includes the additional suffix code “/CN.”
- Optional parts (In general, you need to prepare them)
- Optional parts (Not important goods)

Connection Diagram



Motor model selection

Motor



Example of Model and Suffix Code Selection List (Available combinations)

Model	Suffix code											
	Maximum output torque	Construction	Drive compatibility	Drive current	Positioning accuracy	Mechanical accuracy	Cable exit direction	Cable type	Cable length	Termination option (Motor cable)	Termination option (Encoder Cable)	Suffix code (optional)
DR5B	-030	G	-1	C	7	A1 A2 A4	G	1	-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]	
								2	-003,-004,-005,-008,-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]	
	-050					A3 A4		1	-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]	
								2	-003,-004,-005,-008,-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]	
	-070					1		-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]		
						2		-003,-004,-005,-008,-010,-020,-030,-031,-040,-050,-080,-100,-120,-150,-200,-300		[**7]		

Motor model

모터 모델은 모터 선정 소프트웨어에서 선택이 가능하다.

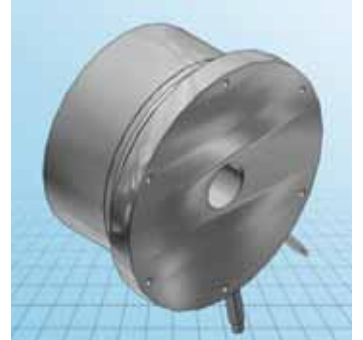
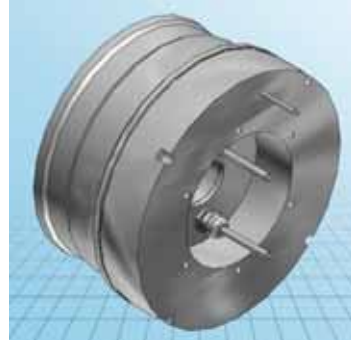
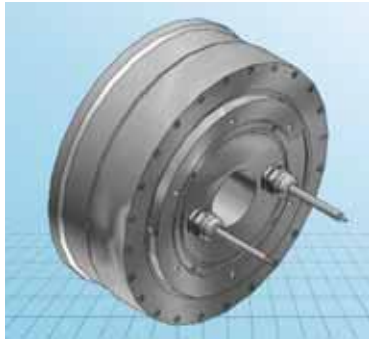
DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Maximum output torque

최대 출력 토크는 모터 선정 소프트웨어에서 선택이 가능하다.

DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Construction



DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Driver compatibility

DM motor -1: Compatible
DR motor -1: Compatible with the SR drive
-2: Compatible with the UR drive

* DrvGIII 드라이브는 SR 드라이브 와 같은 호환성을 가지고 있다. Select "-1."

DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Driver current

드라이브 전류는 모터 모델과 최대 출력 토크로 결정된다.

Category	Specification	description
A	5A	Standard for DM1C series
B	6A	Standard for D*5C series
C	15A	Standard for DM*C series, Standard for DR*B series
D	20A	Standard for DM*A series, Standard for DR*A series

DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Positioning accuracy (Absolute accuracy)

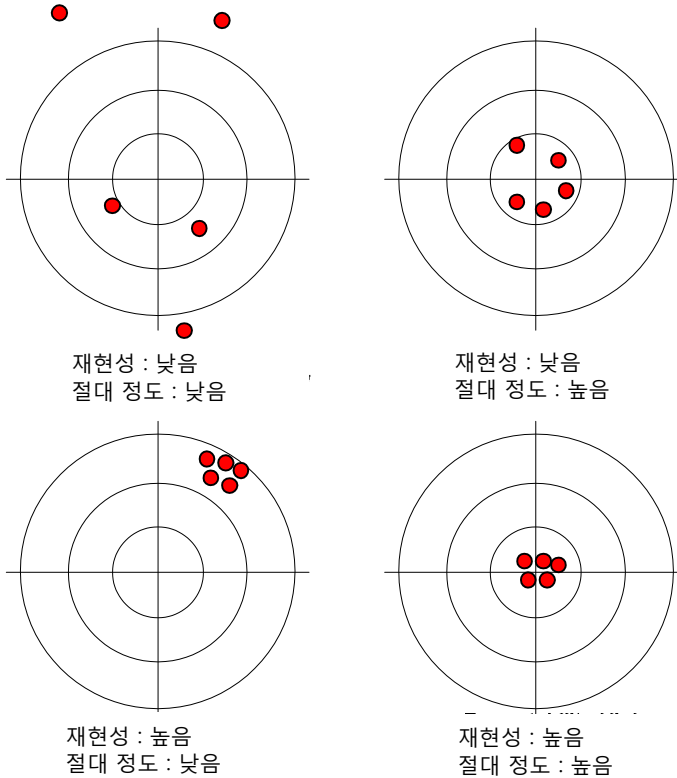
기계적 정도 (Mechanical accuracy)

A1: 코어 run-out / 표면 run-out 5um 이나 미만,

A2: 코어 run-out / 표면 run-out 10um 이나 미만,

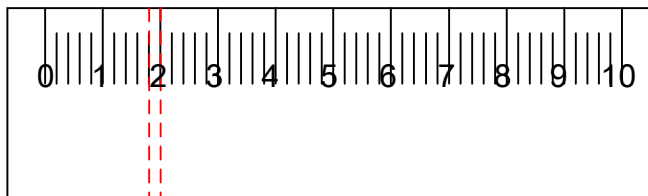
A3: 코어 run-out / 표면 run-out 20um or less,

A4: 표준 정도 (core run-out/surface run-out 100um 혹은 미만)



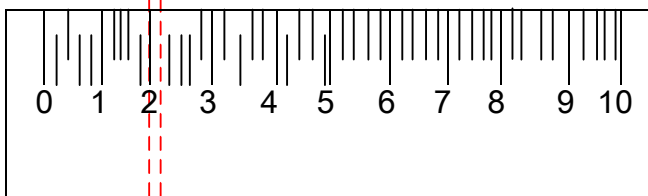
목표 위치는 PTP 모션이 정상적일 경우, 기계적으로 수정이 가능하다.

Absolute accuracy



Ideal ruler

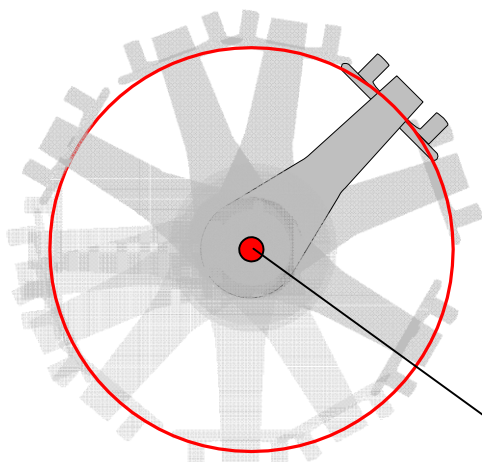
최대 편차는 절대 정도 사양이다.



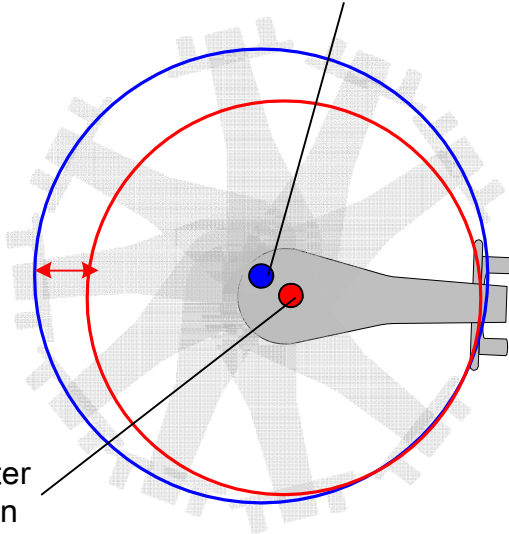
Actual ruler

Mechanical accuracy (Run-out)

Radial runout error

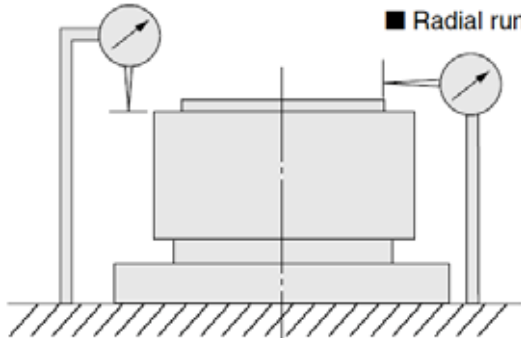


Actual center of rotation axis



Ideal center of rotation axis

■ Axial run-out

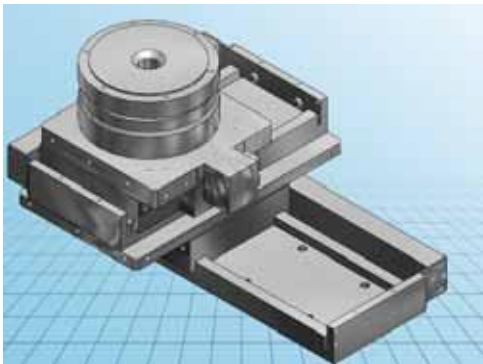
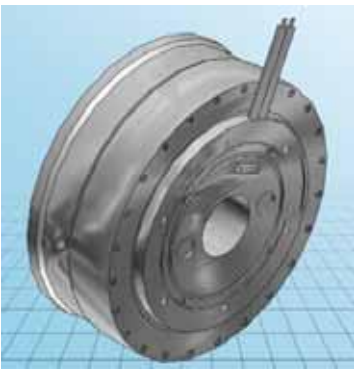
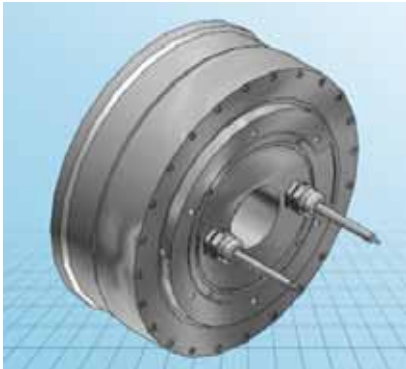


■ Radial run-out

Measurement standard of mechanical accuracy

DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Cable outlet direction

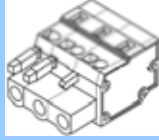


DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Cable type

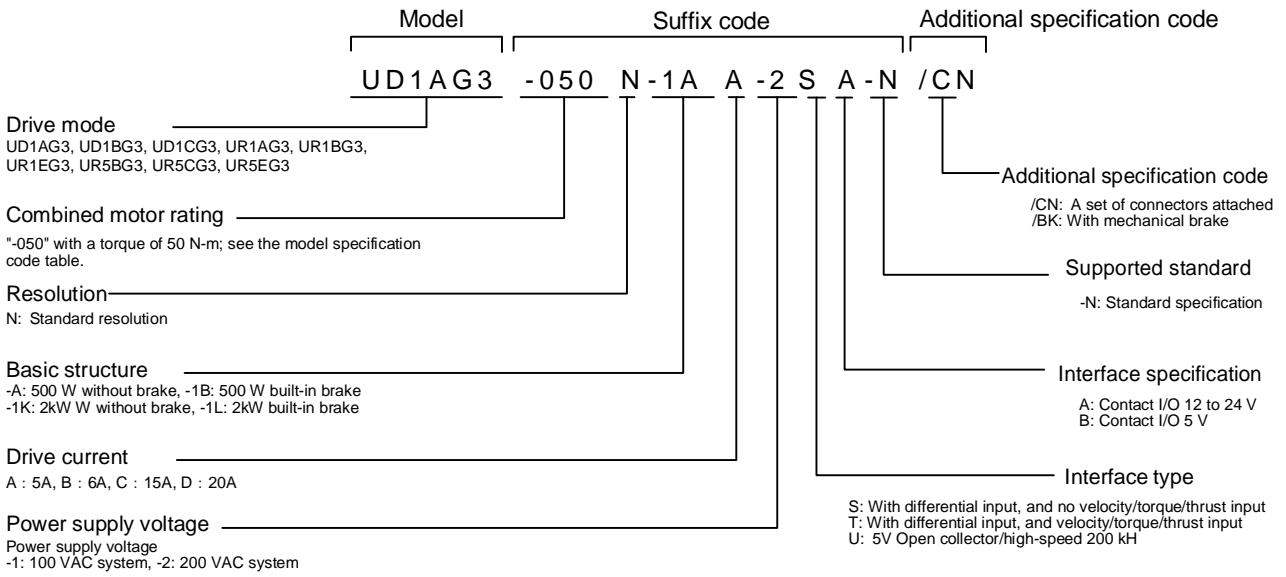
DM1A - 050G - 1D2A1G2 - 003 - 0202 / CE / CN

Scope of delivery

(231-204/026-000 WAGO)		Standard accessories (one piece per drive)
(231-203/026-000 WAGO)		Standard accessories ne piece per
(231/202/026-000 WAGO)		See the table below
(231-131 WAGO)		Standard accessories (one piece per drive)
(733-106 WAGO)		Standard accessories (one piece per drive)
		See the table below
(PCR-S20FS、PCR-LS20LA1 Honda thushin kogyo)		Supplied when order includes the additional suffix code “ /CN” .
(PCR-S36FS、PCR-LS36LA Honda thushin kogyo)		

Driver model selection

Drive



2kW Class Model and Suffix Code Selection List

Model	Suffix code								Suffix code (optional)														
	Combined motor rating	Resolution	Basic structure	Drive current	Power supply voltage	I/F type	I/F specification	Supported standard															
UD1AG3	-050	N	-1K -1L	D	-1 -2	S T U	A B	-N	/CN														
	-100																						
	-150																						
	-200																						
UD1BG3	-015			N						-1K -1L	C	-1 -2	S T U	A B	-N	/CN							
	-030																						
	-045																						
	-060																						
UR1AG3	-075										N						-1K -1L	D	-1 -2	S T U	A B	-N	/CN /BK
	-050																						
	-100																						
	-150																						
UR1BG3	-200	N	-1K -1L		C	-1 -2	S T U	A B	-N									/CN /BK					
	-008																						
	-015																						
	-030																						
UR1EG3	-045			N	-1K -1L					D		-1 -2	S T U	A B	-N	/CN							
	-060																						
	-070																						
	-100																						
UR5BG3	-130									N	-1K -1L						C		-1 -2	S T U	A B	-N	/CN /BK
	-160																						
	-220																						
	-250																						
UR5EG3	-010	N	-1K -1L			D	-1 -2	S T U	A B								-N	/CN					
	-030																						
	-050																						
	-070																						

500W Class Model and Suffix Code Selection List

Model	Suffix code								Suffix code (optional)														
	Combined motor rating	Resolution	Basic structure	Drive current	Power supply voltage	I/F type	I/F specification	Supported standard															
UD1AG3	-050	N	-1A -1B	A	-1 -2	S T U	A B	-N	/CN														
UD1BG3	-004			B																			
	-006			A																			
	-015																						
	-030																						
UD1CG3	-004			N						-1A -1B	A	-1 -2	S T U	A B	-N	/CN /BK							
UR1AG3	-050																						
UR1BG3	-008																						
UR1EG3	-015																						
UR5BG3	-030										N						-1A -1B	B	-1 -2	S T U	A B	-N	/CN /BK
	-010																						
	-005																						
	-010																						
UR5CG3	-015	N	-1A -1B		B	-1 -2	S T U	A B	-N									/CN					
	-005																						
	-010																						

Red highlighted models are not recommended.

모터와 드라이브는 같은 모델의 사이에서만 호환이 된다.

다시 말해, 표준 모델의 경우, 모터와 드라이브의 전류가 5자리 모터 모델 (DM□□-□□□, DR□□-□□□) 와 드라이브 모델 (UD□□G3-□□□, UR□□□G3-□□□) 는 같은 모델이며, 같이 운영하는 것이 하다.

Drive mode

		Drv.GIII	Drv.PIII
DM 모터	DM type motor	X	X
DR 모터	DR type motor	X	X
DB 모터	DB type motor		X
LM 모터	LM type motor	X	X
테이블 데이터 운전	Table data operation	X	X
펄스열 제어	Serial pulse control	X	
아날로그 전압 속도 제어	Velocity control (Analog voltage command)	X	
아날로그 전압 토크·추력 제어	Torque or Force control (Analog voltage command)	X	
접점 I/O	Contact I/O (NPN contact only)	X	
Mechatro-Link	Mechatro-Link	X	
CC-Link	CC-Link		X
Profi-bus DP	Profi-bus DP		X

X:Available

UD1AG3 -050 N-1A A-2 S A-N /CN

DM1A - 050 G - 1 D 2 A 1 G 2 - 0 0 3 - 0 2 0 2 / CE / CN

Combined motor rating

최대 토크에 따른다.

UD1AG3 -050 N-1A A-2 S A-N /CN

DM1A 050 G - 1 D 2 A 1 G 2 - 0 0 3 - 0 2 0 2 / CE / CN

Resolution

UD1AG3 -050 N-1A A-2 S A-N /CN

오직 "N" 만이 표준품으로 선택 가능.
 높은 분해능도 고려 가능.
 영업 담당자와 상담 가능.

Basic structure

-1A: 500 W 브레이크 미포함, -1B: 500 W 빌트인 브레이크

-1K: 2kW W 브레이크 미포함, -1L: 2kW 빌트인 브레이크

-1A 는 표준형 500W(5 or 6A) 급 드라이브 이다. -1K 는 표준형 2kW(15 or 20A) 급 드라이버 이다.

이것은 서보가 꺼졌거나 쇼트된 모터가 회전하면서 발생하는 모터 제어 토크의 free-run 거리를 줄여 주는 보조 브레이크이다.

다이나믹 브레이크는 서보가 에러에 의해서 꺼졌을 때 사용하기 위한 것이다.

드라이브를 외부 힘이나 모터를 가동하는 도중, 전원을 끄거나, 서보를 끄는 등의 용도로 사용 하지 말 것.

다이나믹 브레이크 회로의 지속적인 사용은 드라이브 부속의 수명을 단축시키고 예기치 못한 고장을 초래 할 수 있다.

Drive current

A : 5A, B : 6A, C : 15A, D : 20A

이 코드는 모터의 전류 선택시 반드시 선택해야 함.

UD1AG3 -050 N -1K **D** -2 S A -N /CN

DM1A-050G-1 **D** 2 A 1 G 2-003-02 02 /CE/CN

Power supply voltage

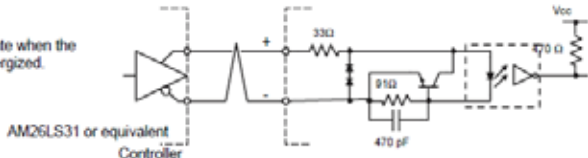
-1: 100 VAC system, -2: 200 VAC system

-2 has higher T-N (Torque - velocity) characteristics.

미국 (USA) 을 제외한 대부분의 국가 “-2” type.

Interface type

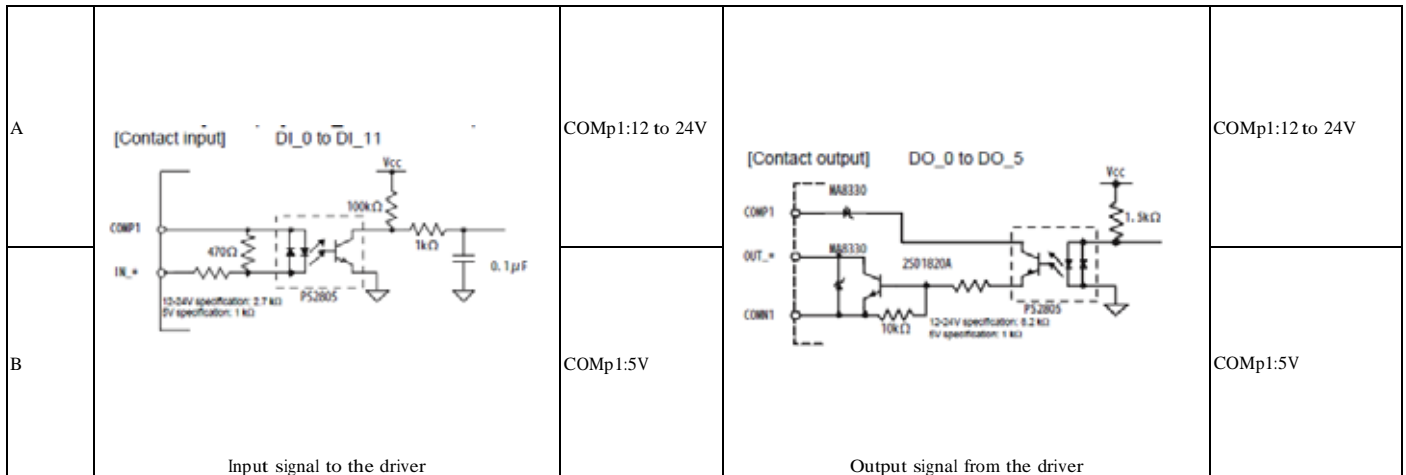
- S: With differential input, and no velocity/torque/thrust input
- T: With differential input, and velocity/torque/thrust input
- U: 5V Open collector/high-speed 200 kH (NOT recommended)
- C: CC-Link
- P: Profi-bus
- M: Mechatrolink

	Pulse input circuit	Analog input (Velocity control or torque control)	Table data operation	
S	<p>[Differential Input Spec.] PUA_IN±, SDB_IN±</p> <p>Connect a differential line drive conforming to the RS422A standard, such as an AM26LS31 or equivalent.</p> <p>Input is in the on-state when the photo-coupler is energized.</p>  <p>AM26LS31 or equivalent Controller</p>	not available	available	
T		Input pulse rate Max. 2Mpps	+6V or +-10V (Voltage range can be selected by parameter.)	available
U		Input pulse rate Max. 500kpps	not available	available

Interface specification

Please refer to controller's specification.

- A: Contact I/O 12 to 24 V
- B: Contact I/O 5 V



Selection guide
Refer to upper controller's manual.

Supported standard

-N: Standard specification

Suffix code (optional)

- /CE: Support the CE mark,
- /CN: Connector attached,
- /TC1: Test result attached (standard test),
- /TC30: Test result attached (absolute accuracy 30 seconds),
- /TC40: Test result attached (absolute accuracy 40 seconds),
- /TC60: Test result attached (absolute accuracy 60 seconds),
- /TC90: Test result attached (absolute accuracy 90 seconds),
- /TC120: Test result attached (absolute accuracy 120 seconds),
- /TC180: Test result attached (absolute accuracy 180 seconds),
- /TC300: Test result attached (absolute accuracy 300 seconds)

CN is required when CN2 or/and CN4 are needed.

TB 1	Power supply terminal connector	(231-204/026-000 WAGO)		Standard accessories (one piece per drive)
TB 2	Motor terminal connector	(231-203/026-000 WAGO)		Standard accessories (one piece per drive)
TB 3	Regenerative terminal connector	(231/202/026-000 WAGO)		See the table below
	Screw-less terminal lever	(231-131 WAGO)		Standard accessories (one piece per drive)
TB 4	Screw-less terminal connector	(733-106 WAGO)		Standard accessories (one piece per drive)
	Regenerative resistor	Regenerative resistor		See the table below
CN 2	Encoder/resolver connector	(PCR-S20FS, PCR-LS20LA1 Honda Thushin Kogyo.)		Supplied when order includes the additional suffix code "/CN".
CN 4	Controller interface connector	(PCR-S36FS, PCR-LS36LA Honda Thushin Kogyo.)		Supplied when order includes the additional suffix code "/CN".

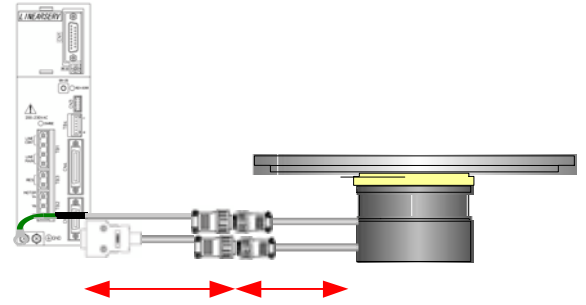
Cable length

Motor outlet cable length

길이가 긴 연장 케이블을 사용을 권장함.

외부 케이블은 적어도 3m 이상은 되어 함.outlet cable.

(Most common length is 300mm or 500mm)



Dependent on systems
3m

DM1A-050G-1D2A1G2-003-0202/CE/CN

Termination option

JST connector becomes the most common connector because of its performance and reasonable price.

Standard combination

Treatment	Manufacturer	Motor cable	Encoder cable
Be treated by user		"-02" 	"-02"
Connect to driver directory	Honda	"-20" 	"79"
Highest reliable connector	JAE	"-08" 	"08"
Standard metal connector	Nanahoshi	"-72" 	"73"
Cheapest connector	Molex AMP	"-71" 	"69"

DM1A-050G-1D2A1G2-003-0202/CE/CN

Example extension cable selection (DM□□ Motors Excluding DM1B-004, DM1B-006 and DM1C-004)

	Extension Cable			Outgoing line	
	Connector, drive side	Model and Suffix code	Connector, motor side	Connector	Suffix code
Motor cable				J.S.T. Mfg N2-4	"-20"
	J.S.T. Mfg N2-4	C1M-NC-2006-□□□	Canon connector made by JAE Connector MS3106B20-4S Clamp MS3057-12A	Canon connector made by JAE Connector MS3101B20-4P Clamp MS3057-12A	"-08"
	J.S.T. Mfg N2-4	C1M-NC-2070-□□□	Connector 3191-06R Contact 1189ATL Made by Molex	Connector 3191-06P Contact 1190TL Made by Molex	"-71"
	J.S.T. Mfg N2-4	C1M-NC-2074-□□□	Connector made by Nanaboshi Electric Mfg NCS-304-P (female)	Connector made by Nanaboshi Electric Mfg NCS-304-Ad (male)	"-72"
Encoder/resolver cable				Connector PCR-S20FS Cover PCR-LS20LA1 Made by Honda Tsushin Kogyo	"79"
	Connector PCR-S20FS Cover PCR-LS20LA1 Made by Honda Tsushin Kogyo	C1E-EC-7906-□□□	Canon connector made by JAE Connector MS3106B18-1S Clamp MS3057-10A	Canon connector made by JAE Connector MS3101B18-1P Clamp MS3057-10A	"08"
	Connector PCR-S20FS Cover PCR-LS20LA1 Made by Honda Tsushin Kogyo	C1E-EC-7962-□□□	Connector 172170-1 Contact 170365-3 Made by AMP (Japan)	Connector 172162-1 Contact 170363-3 Made by AMP (Japan)	"69"
	Connector PCR-S20FS Cover PCR-LS20LA1 Made by Honda Tsushin Kogyo	C1E-EC-7980-□□□	Connector made by Nanaboshi Electric Mfg NJC-2012-PF (female)	Connector made by Nanaboshi Electric Mfg NJC-2012-AdM (male)	"73"

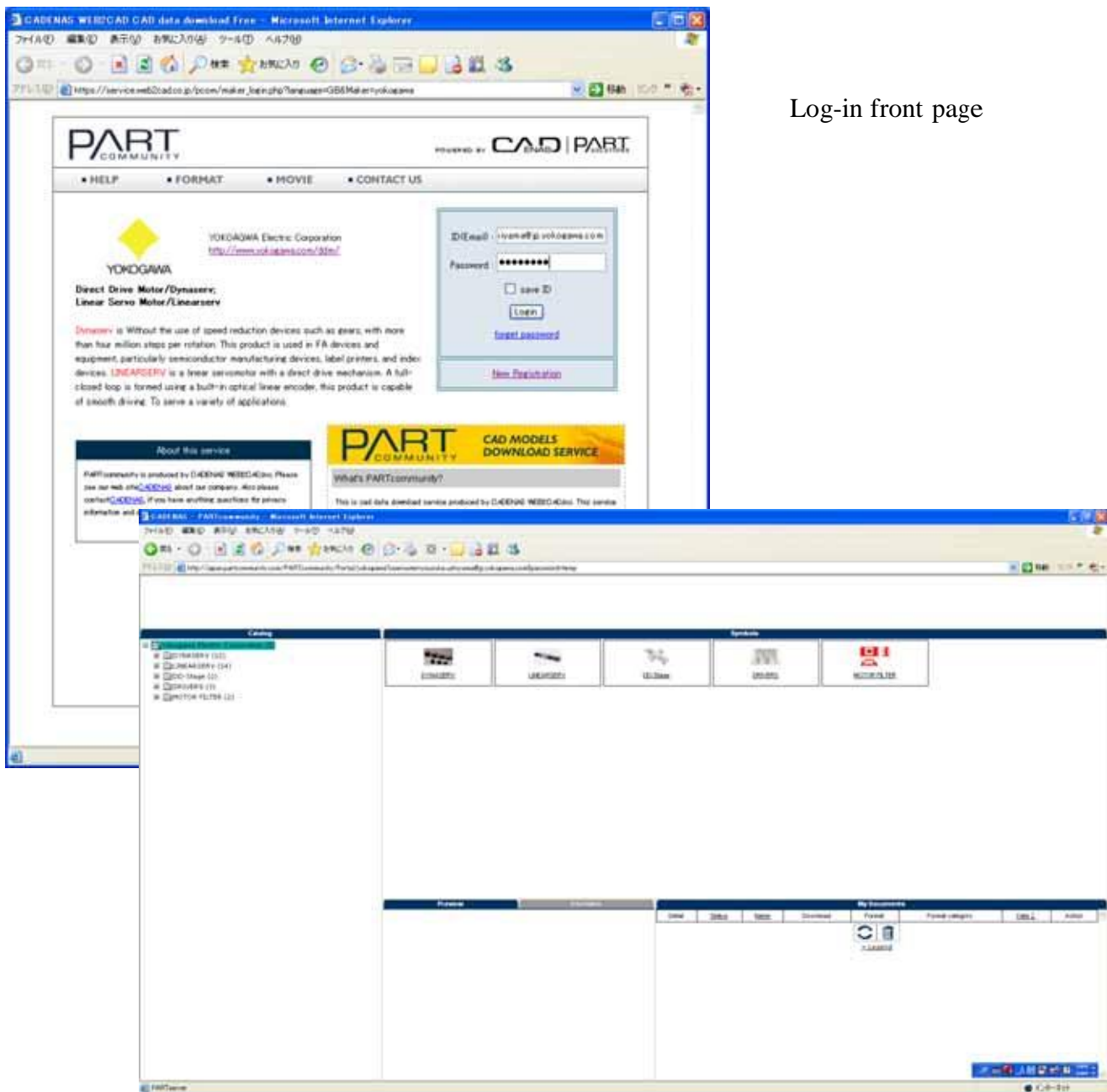
Numbers in parentheses in the table show terminal treatment of the suffix code.

See "Model and Suffix code" for the terminal treatment codes for motor outgoing line.

CAD files downloading

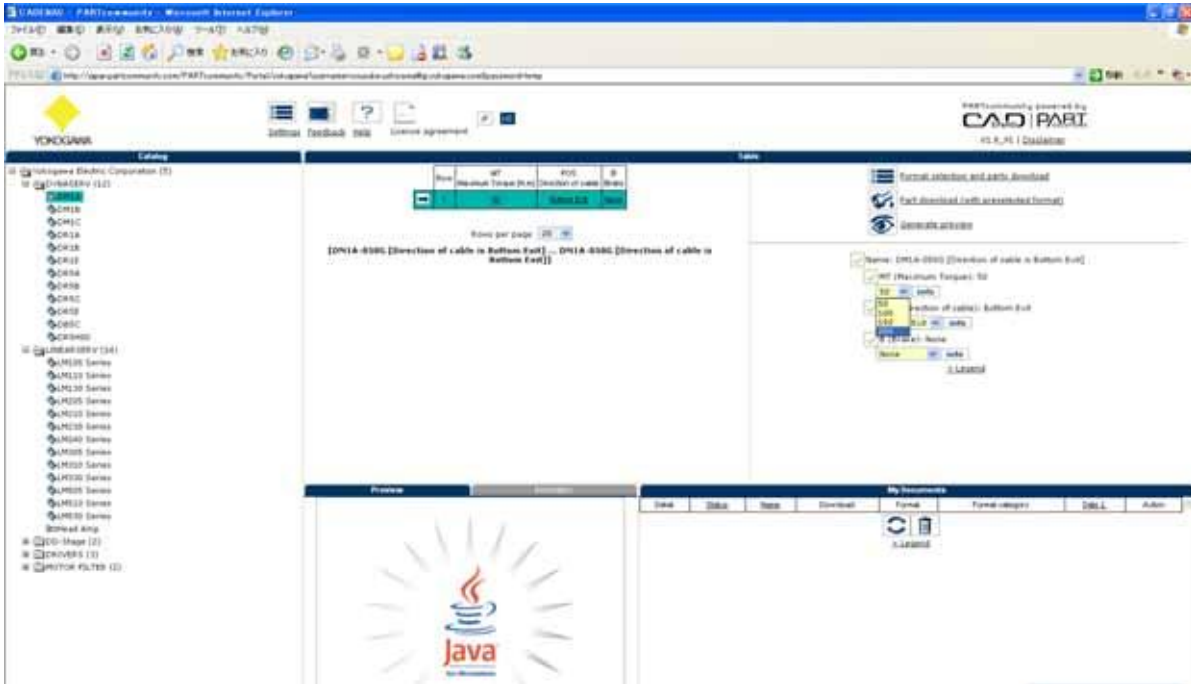
Visit following URL for CAD download

https://service.web2cad.co.jp/pcom/maker_login.php?language=GB&Maker=yokogawa



Log-in front page

Main window



Model selection

Format-Selection
DXF/DWG layer options

You have selected the maximum of formats! Remove chosen formats to select other formats.

CAD Model for Download

2D 3D

Neutral

- BMP (3D View)
- DWFASCII 5.5
- DWFBinary 5.5
- DWFCompressed 5.5
- DWG>=V14
- DXFV12
- HPGLV2
- IGES>=V5.0
- JPEG (3D View)
- Metafile 2DV1

Native

- Allplan2004
- AutoCAD>=V14
- Cadkey CDL>=V19
- Catia IUAV4
- HP ME 10>=V9
- I-IDEAS>=V7
- Medusa>=2000i
- SolidEdge>=V17
- VX (Varimetrix)>=V5.0

Selected Formats

Type	Format	Format category	Action
	DXFV12	2D Neutral	info

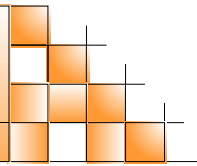
CAD format selection

My Documents							
Detail	Status	Name	Download	Format	Format category	Date ↓	Action
		DM1A-200G [Direction... >>		DXFV12	2D Neutral	Jul 9, 2010	

> Legend

Creating and download window

MS Code selection tool



This Excel macro tool helps you select model codes.

Name of the tool: MSCode_Rev1.xls

Model and Suffix Code		UD1BG3-045N-1K-2TA-N	10
Type	Drive	Code	L/T
Model	UD1BG3		10
Standard Spec			
01 Combined motorrating	-045:With a Torque of 45 N-m	-045	0
02 Resolution	N:Standard resolution	N	0
03 Constrution	-1K:2kW without brake	-1K	0
04 Drive current	C:15A	C	0
05 Power supply voltage	-2:200 VAC system	-2	0
06 Interface type	T:With differential input and velocity/torque/thrust input	T	0
07 Interface spec.	M:MECHATROLINK2	A	0
08 Suppoted standard	S:With differential input, and no velocity/torque/thrust input		
09	T:With differential input and velocity/torque/thrust input	-N	0
10	U:5V Open collector/high-speed 200 kHz		
11	Z:Customize desgin(non standard)		
12			
Option			
Option			
Option			