

BLDC Motor + Encoder

모터뱅크

모델명 : BL4241E1K

제품설명

BL4241E1K 는
BLDC Motor 이며 홀센서가 내장된 3 상
8 극 42mm 크기로 엔코더가 추가되
어 탈조를 방지하는 크로즈루프제
어가 가능한 모터입니다.



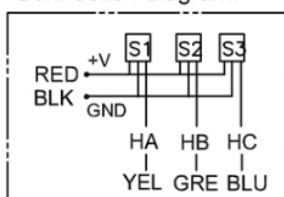
BL4241E1K 상세구성

- 1) 3상 8극 42mm BLDC 모터 델타권선 모터에 엔코더추가형.
- 2) 크기는 42각 정격출력 26W 4000RPM의 고성능 모터.
- 3) 다양한 감속기구성과 브레이크추가가 지원되는 Nema 17규격.

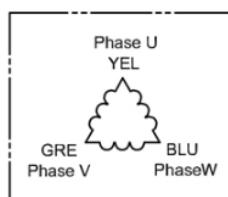
SPEC:

[BL4241-2455] Nema 17(42mm) BLDC모터			
네마 17(42mm) 출력 26W(와트) 고성능 BLDC모터 DC24V 5,500rpm			
ROTATION: CW SEE FROM LEAD END		■ 결선도	
MANUFACTUER MODEL	BL4241-2455	ELECTRICAL CONNECTION TABLE	
NUMBER OF POLES	8	+5V	RED (빨강)
PHASE TO PHASERESISTANCE	1.8 OHMS	HALL U	YEL (노랑)
NOMINAL VOLTAGE	24 VDC	HALL V	GRE (녹색)
NO LOAD SPEED	5500±10% RPM	HALL W	BLU (청색)
NO LOAD CURRENT	0.3 Amps Max.	GND	GND (흑색)
RATED TORQUE	0.0625 N-m	PHASE U	YEL (노랑)
RATED SPEED	4000±10% RPM	PHASE V	GRE (녹색)
OUTPUT POWER	26 W	PHASE W	BLU (청색)
BACK EMF CONSTANT	4.36 V/kRPM		
TORQUE CONSTANT	0.042 N-m/A		
INSULATION CLASS	B		

Connection diagram:



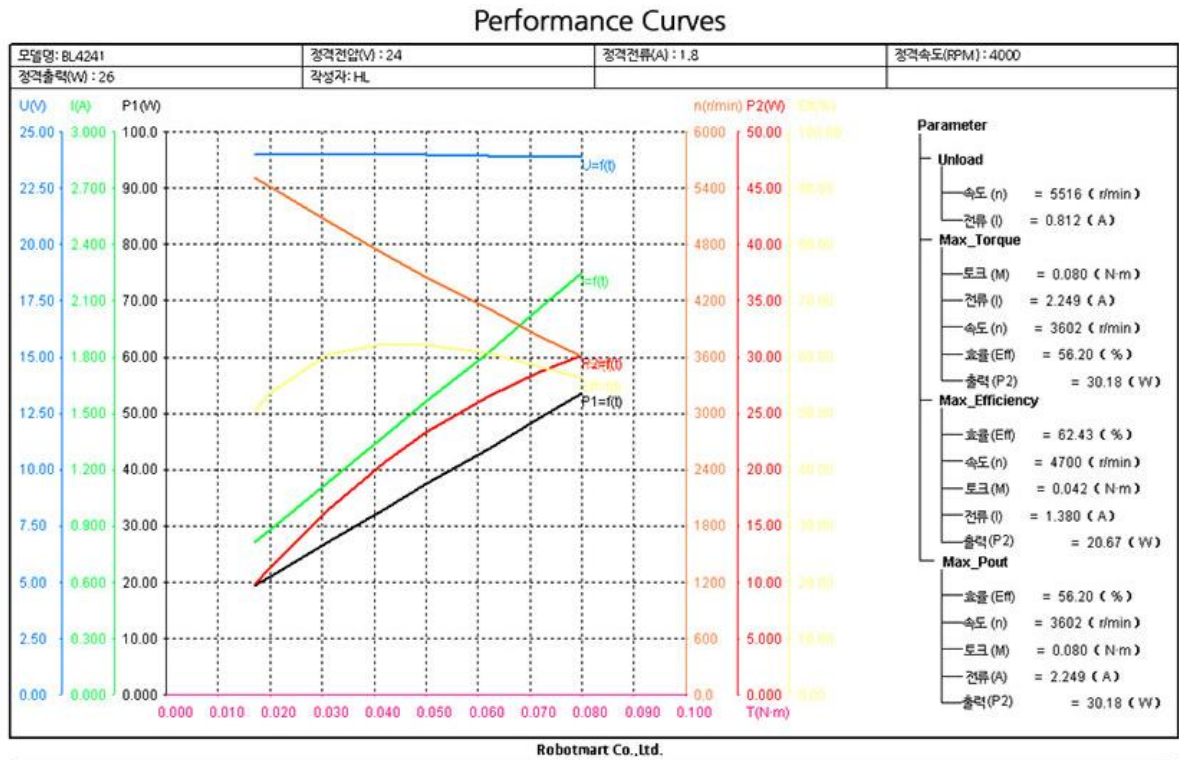
Hall sensor cable



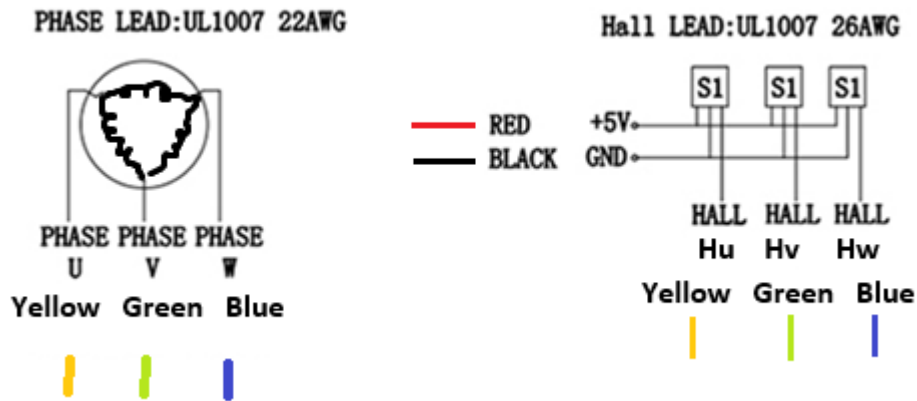
Wiring cable

Note: hall sensor power supply
voltage +5 to +20VDC

모터특성커브:



단자구성:



선구분 :

UVW (AWG 22:홀 신호선보다 더 두껍습니다)

U : Yellow color

V : Green color

W : Blue color

홀신호선(AWG 26)

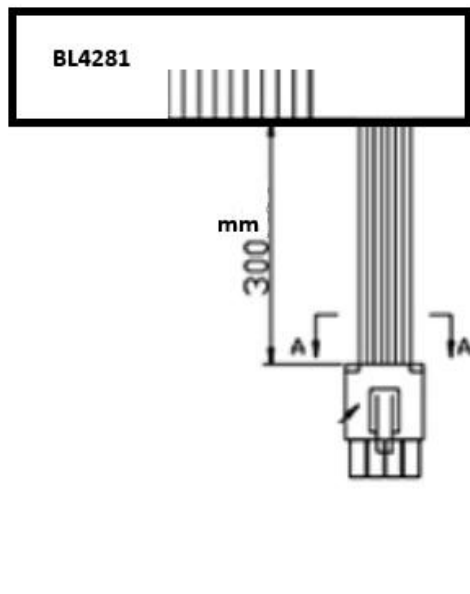
+5V : Red color

GND : Black color

Hall u : Yellow color

Hall v : Green color

Hall w : Blue color



- pin 1: hall-u
- pin 2: hall-v
- pin 3: hall-w
- pin 4: hall-5v
- pin 5: U phase
- pin 6: V phase
- pin 7: W phase
- pin 8: hall -gnd

엔코더구성:

엔코더결선 분해능 1000P/R	레드	블랙	옐로우	그린	블루	화이트
	+5V	GND	EA+	EA-	EB+	EB-

Encoder Wiring Diagram:

Vcc	Encoder Voltage(+5V)	RED
GND	Encoder Grand(0V)	BLACK
EA+	Encoder A+ phase input	YELLOW
EA-	Encoder A- phase input	GREEN
EB+	Encoder B+ phase input	BLUE
EB-	Encoder B- phase input	WHITE



인크리멘탈 증감비교형 1000CPR 엔코더



BLC-400R4E 와 연동시켜 클로즈루프제어 구성

모터세부스펙:

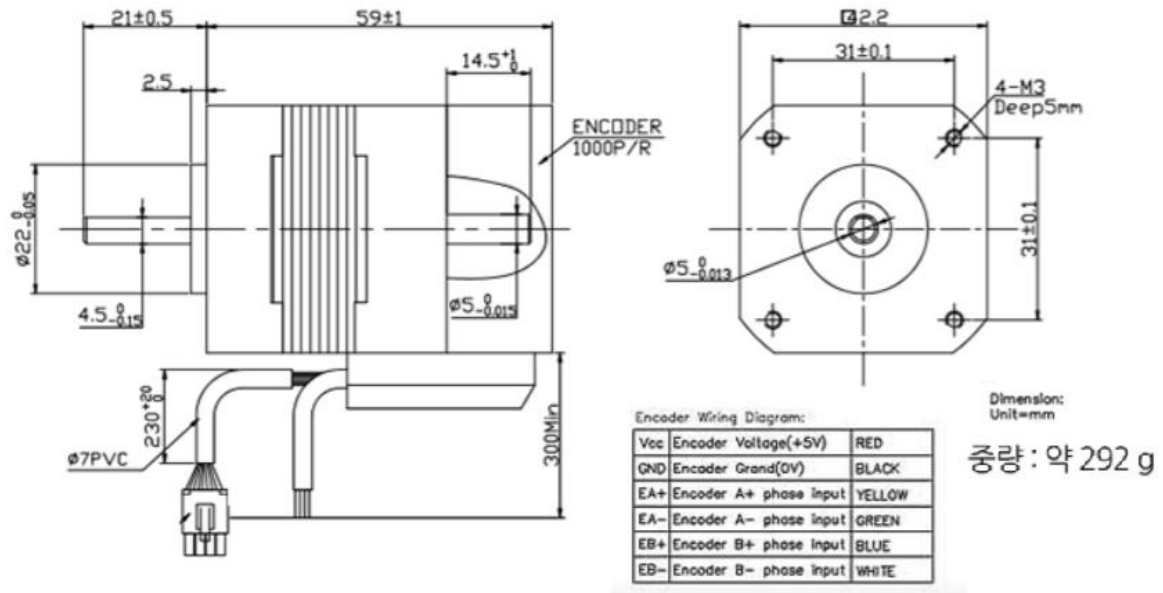
General Specification:	
Item	Specification
Winding type	Delta
Hall effect angle	120 degree electrical angle
Shaft run out	0.025mm
Radial play	0.02mm@450g
End play	0.08mm@450g
Max.radial force	28N @20mm form the flange
Max.axial force	10N
Insulation class	Class B
Dielectric strength	500VDC for one minute
Insulation resistance	100M Ω Min.,500VDC

제품의 각시리즈별(BL4241/BL4261/BL4281/BL42100) 스펙비교



Electrical Specification:					
		Model			
Specification	Unit	BL4241	BL4261	BL4281	BL42100
Number Of Phase	Phase	3			
Number Of Poles	Poles	8			
Rated Voltage	VDC	24			
Rated Speed	Rpm	4000			
Rated Torque	N.m	0.0625	0.125	0.185	0.25
Rated Current	Amps	1.8	3.3	4.8	6.3
Rated Power	W	26	52.5	77.5	105
Peak Torque	N.m	0.19	0.38	0.56	0.75
Peak Current	Amps	5.4	10.6	15.5	20
Back E.M.F	V/Krpm	4.1	4.2	4.3	4.3
Torque Constant	N.m/A	0.039	0.04	0.041	0.041
Rotor Inertia	g.cm ²	24	48	72	96
Body Length	mm	41	61	81	100
Weight	Kg	0.3	0.45	0.65	0.8
Sensor	Honeywell				
Insulation Class	B				
Degree of Protection	IP30				
Storage Temperature	-25 – +70°C				
Operating Temperature	-15 – +50°C				
Working Humidity	≤85% RH				
Working Environment	No direct sunlight, non-corrosive gas, flammable gas, oil mist, no dust				
Altitude	≤1000m				

제품치수(Dimension Drawing) :



결선도:

모터드라이버 : BLC-400R4E 과 BL4241E1K

