

愛立德电子（香港）有限公司

INEED ELECTRONICS (HONGKONG) LIMITED

Company No.: 1653395 - Registered Office: Room 02,21/F, Hip Kwa Commercial Building, 38 Pitt Street, Yau Ma Tei, Kowloon, Hong Kong
China Office: Room 4-1904, Yuan Meng Ya Ju, Zongbu 3rd Road, Songshanhu North Hi-Tech Park, Dongguan, Guangdong 523808, China
Tel: (+86) 769 2289 1073 Fax: (+86) 769 2289 1076 URL: <http://www.ineed.hk>

產品規格說明書

SPECIFICATION FOR APPROVAL

客戶 *Buyer Name*:

專案 *Application*:

品名 *Part Name*: Micro Motor

型號 *Part No*: IND-YZ0716L47-3253T

客戶確認 *Buyer Approval*

料號 <i>Buyer Part No.</i>	
簽章 <i>Signatures & Company Stamp</i>	

擬制 <i>Designed by</i>	魏友平 <i>Wei Youping</i>
審核 <i>Checked by</i>	王飛 <i>Wang Fei</i>
批准 <i>Approved by</i>	陳峰 <i>Chen Feng</i>

規格說明 Specification

編號Spec No.:	LL-3-J-19012
版本Version:	A.1
日期Date:	2019-08-26

Index, Content, and History of Revision

No.	Contents	Page
0	Index, Content, and History of Revision	1
1	General Scope	2
2	Operating Conditions	2
3	Measuring Conditions	2
4	Mechanical Specifications	2
5	Electrical Performance	3
6	Reliability	4
7	Environmental	4
8	Caution in Use	5
9	Packaging	5
10	Mechanical Drawing	6

History of Revision

規格說明 Specification

編號Spec No.:	LL-3-J-19012
版本Version:	A.1
日期Date:	2019-08-26

1. General Scope

The specification applies to micro DC motor, part no.: IND-YZ0716L47-3253T

2. Operating Conditions

No.	專案/Item	規格/Specification
2-1	額定電壓Rated Voltage	3.0 V DC
2-2	使用電壓範圍Operating Voltage	2.2-3.6 V DC
2-3	旋轉方向Direction of Rotation	CW or CCW.
2-4	馬達位置Position of Motor	All positions.
2-6	工作溫度Working Temperature	-30 ~ 60°C, 65±20%RH. No moisture condensation.
2-7	保存溫度Storage Temperature	-40 ~ 60°C, 65±20%RH. No moisture condensation.

3. Measuring Conditions

The measurement at 20°C & 65%RH is standard. If the judgment is not questionable, recognize measurement at 5°C to 35°C & relative humidity 45% to 85%. Direction of motor is shaft horizontal.

4. Mechanical Specifications

No.	專案/Item	規格/Specification
4-1	外觀Appearance	By visual examination, no obvious evidence of mechanical damage and rust.
4-2	軸向間隙Axial End Play	0.1-0.3mm
4-3	尺寸Dimensions	Refer to 10. Mechanical Drawing

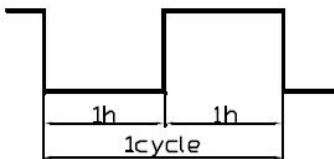
5. Electrical Performance

No.	專案/Item	規格/Specification	條件及備註/ Conditions & Remarks
5-1	額定轉速 Rated Speed	12,000±2500 rpm	Tested at Item 2-1 rated voltage.
5-2	額定電流 Rated current	250 mA Max	Tested at Item 2-1 rated voltage.
5-3	啟動電壓Starting Voltage	1.7V DC max.	
5-4	堵轉電流Stall current	680 mA max.	在額定電壓下。At rated voltage
5-5	端子阻抗Terminal Resistance	5.5 Ω±20%	Tested between the two lead wires.
5-6	絕緣電阻Insulation Resistance	1 MΩ Min	Tested at DC 100V between the wires and housing.
5-7	負載數據Test data with load	Refer to 10. Mechanical Drawing	
5-8	機械噪音Mechanical noise	50dB (A) max.	See below sketch of noise test:
	在額定電壓、額定負載（振子）下 背景噪音：不於 28dB.A 計權 測試儀器：B&k 夾具重量：700g At rated voltage and rated load (Counterweight). Back ground noise 28dB(A) Max Measuring instruments: B&k Weight of jig:700g		

規格說明 Specification

編號 Spec No.:	LL-3-J-19012
版本 Version:	A.1
日期 Date:	2019-08-26

6. Reliability

No.	專案/Item	測試條件/Specification	判定標準/Judgment
6-1	壽命 Lifetime Test	Voltage: 3.0V DC Test Mode: 0.5s On, 0.5s Off, as 1 cycle. Total cycles: 200 000.	After tests, the motors shall meet: 1) Rated speed: Initial data -30% Min, Initial data +60% Max 2) Rated current: Initial data ±30% max 3) Starting voltage: 2V DC max.
6-2	低溫貯存放置 Low Temperature Storage Test	Temperature: $-40\pm 2^{\circ}\text{C}$ Time: 96hrs	After the tests, after two hours placed at room temperature, the motors shall meet: 1) Rated speed: varies within $\pm 30\%$ of initial data. 2) Rated current: varies within $\pm 30\%$ of initial data.
6-3	高溫貯存放置 High Temperature Storage Test	Temperature: $60\pm 2^{\circ}\text{C}$ Time: 96hrs	
6-4	濕度放置 Exposure to High Humidity	Temperature: $40\pm 2^{\circ}\text{C}$ Humidity: 90-95RH Time of Exposure: 96hrs	
6-6	熱衝擊 Heat Shock Test	$+60\pm 2^{\circ}\text{C}$  $-20\pm 2^{\circ}\text{C}$ Test Mode: As shown above. Test Cycles: 20	After the tests, after two hours placed at room temperature, the motors shall meet: 1) Rated speed: varies within $\pm 30\%$ of initial data. 2) Rated current: varies within $\pm 30\%$ of initial data.
6-7	自然跌落 Free Drop Test	The motor is fixed with a jig of 75 grams. Free drops onto the concrete floor from a height of 1.5 meters, in direction of $\pm x$, $\pm y$, $\pm z$. Three times each direction.	After the tests, after two hours placed at room temperature, the motors shall meet: 1) Rated speed: varies within $\pm 30\%$ of initial data. 2) Rated current: varies within $\pm 30\%$ of initial data.

7. Environmental

The product shall be RoHS compliant.

8. Caution in Use

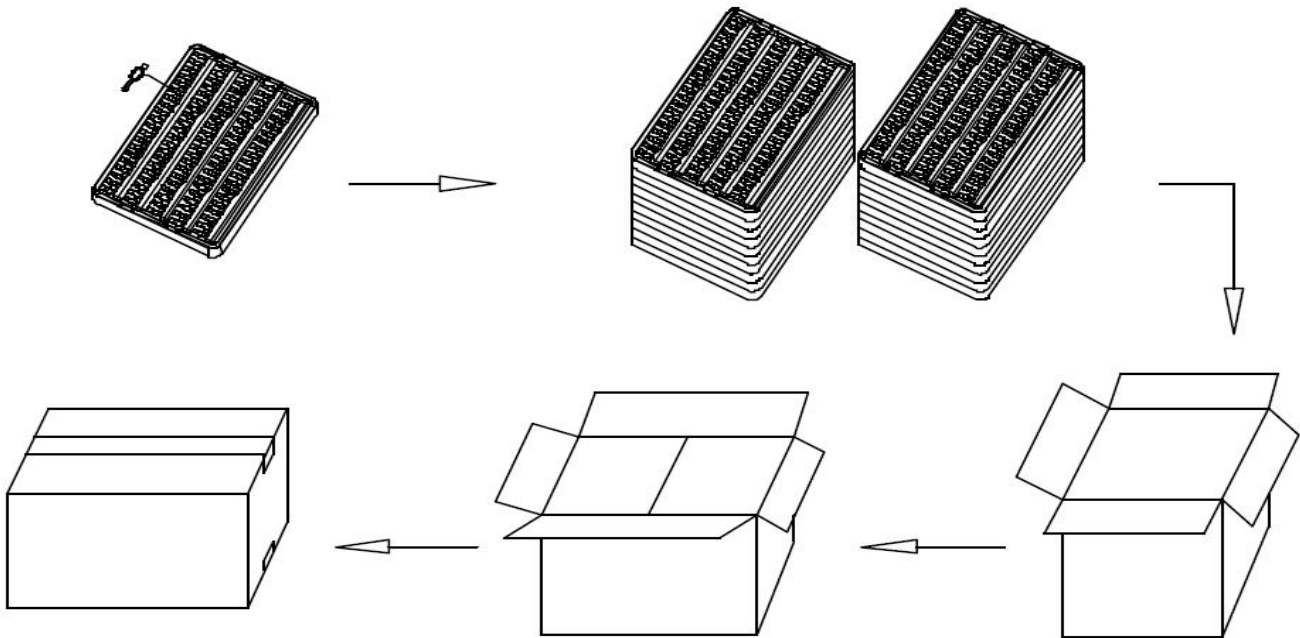
8-1	Place the motors carefully in transportation to avoid any damage to the motor body; otherwise, its functions would be damaged due to collision.
8-2	Do not leave and use the motors in the environment of high temperature, high humidity and corrosion gas; otherwise, it would cause damage to the functions.
8-3	Do not lock the shaft and bearing; otherwise, the coils would be very hot and burn up and the motor will stop working.
8-4	It is not permitted to place the motor with magnetic objects; otherwise, it may cause the functions fall down.
8-5	Use the motors within six months after you buy it. Do not place it at moisture place. Ventilation is required in your

規格說明 Specification

編號Spec No.:	LL-3-J-19012
版本Version:	A.1
日期Date:	2019-08-26

9. Packaging

- 9-1 100 pcs/tray, size of tray: 230mm*158mm*15mm.
- 9-2 20 trays/stack, Qty/ stack: 2000pcs.
- 9-3 2 stacks/inner box, Qty/inner box: 4000pcs.
- 9-4 2 inner boxes/carton, size of carton: 360mm*260mm*170mm..
- 9-5 Seal the carton, indicate the quantity and lot number on it.



9-6 Packaging Drop Tests

Standard height of drop: 75cm for gross weight within 9kgs; 60cm for gross weight between 9kgs and 23kgs.

Drop one time from each plate, totally 6 times. Drop one time from each corner, totally 3 times.

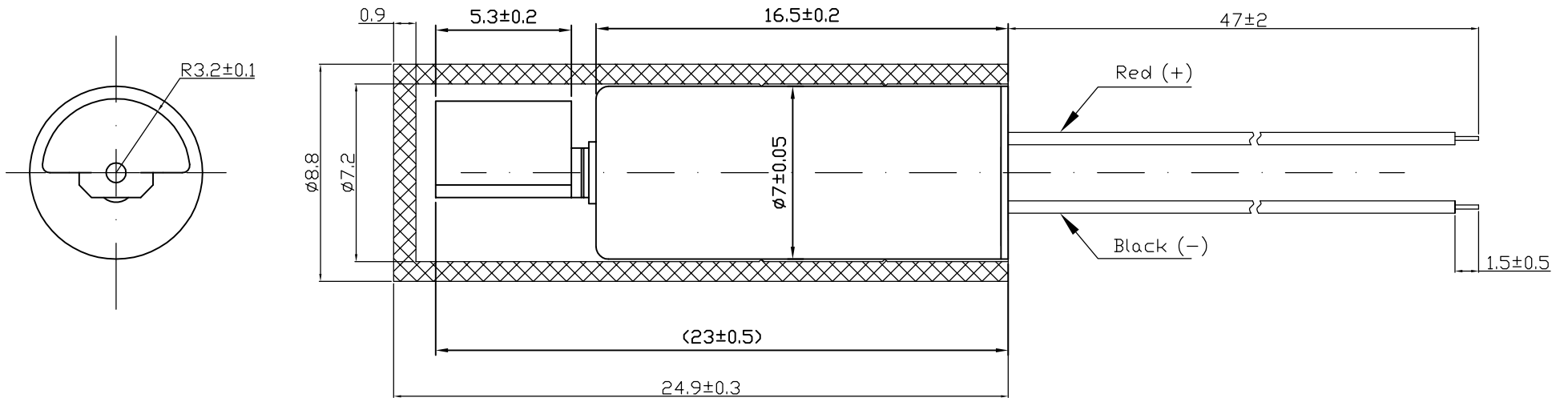
No damage to the motors after the packaging drop tests.

技术要求 Technical Requirements:

1. 额定电压 Rated Voltage: 3VDC
2. 额定电流 Rated Current: 250 mA Max
3. 额定转速 Rated Voltage: 12000±2500 RPM
4. 启动电压 Starting Voltage: 1.7V Max

NOTES:

1. DIMENSIONS, MODIFICATIONS OR CHANGES NOT INDICATED ON THIS DRAWING DO NOT APPLY UNLESS CONFIRMED BY US IN WRITING.
2. THIS DIM, APPLIES ONLY WHEN MOTOR SHAFT IS IN EXTREME RIGHT POSITION.
3. SHAFT END PLAY 0.1~0.30mm.



REVISIONS						DWN	CHKD	APPD	MODEL	UNIT	mm	DATE	2019.08.26
									IND-YZ0716L47-3253T			SCALE	1:1
									DWG NO				
	SYM	DESCRIPTION	REF NO	DWN	CHKD	6/7	/	/					INEED ELECTRONICS (HK) LIMITED