

# 2020年 馬達微控制器發表會-台北場

Motor Application Marketing Department

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DATE : 2020/SEP/23

新唐官网 <https://www.nuvoton.com>

牛卧堂 <http://www.nuvoton-mcu.com/forum.php?mod=viewthread&tid=1819&fromuid=177288>



# About nuvoTon



2008/7/1

Spin-off from Winbond  
Electronics' Logic business  
group



2010/9/27

Became public on the Taiwan  
Stock Exchange (TSE).



Number of employees:  
1,653



Worldwide Locations :  
Headquarters : Taiwan  
Other Regions : China,  
U.S.A., Israel, India...



Main Products :  
Microcontrollers,  
Audio ICs, Cloud  
and Computing ICs,  
Foundry Service





# IMC Product Roadmap

**NM1530** : [LQFP48<sub>\(7x7mm<sup>2</sup>\)</sub>/LQFP64<sub>\(10x10mm<sup>2</sup>\)</sub>/LQFP100<sub>\(14x14mm<sup>2</sup>\)</sub>](#)

64kB/128kB Flash with ISP, 8kB/16kB RAM  
72MHz, 32-bit Divider, MDU, QEI, **CAN2.0b**,  
UART x 2, I<sup>2</sup>C x 1, SPI x 3, 800kHz 12-bit ADC  
with 2 S/H, OP x 2, 1~ 2 motor control with 16-  
bit PWM

**NM1240** : [QFN33<sub>\(4x4mm<sup>2</sup>\)</sub>/LQFP48<sub>\(7x7mm<sup>2</sup>\)</sub>](#)

64kB Flash with ISP, **60MHz**, 8kB RAM, 32-bit  
Divider, OPAX1,ACMPx1, **DACx2**, 12-bit ADC  
with 2 S/H, 16-bit PWM ,ECAP, UARTx2, I2Cx2,  
SPIx1,**DMA**

**NM1200** : [QFN33<sub>\(5x5mm<sup>2</sup>\)</sub>/LQFP48<sub>\(7x7mm<sup>2</sup>\)</sub>](#)

17.5kB Flash with ISP, 48MHz, 2kB  
RAM, UART x 2, I<sup>2</sup>C x 1, SPI x 1, 500 kHz  
10-bit ADC with 1 S/H, 32-bit Divider,  
16-bit PWM

NM1530

NM1230

NM1240

NM1120

NM1200

NM1100

**NM1230** : [QFN48<sub>\(7x7mm<sup>2</sup>\)</sub>/LQFP48<sub>\(7x7mm<sup>2</sup>\)</sub>](#)

64kB Flash with ISP, **72MHz**, 16kB RAM,  
32-bit Divider, OPA x 3, ACMP x 2, **DAC x 2**,  
12-bit ADC with 2 S/H, 16-bit PWM , ECAP,  
**QEI** ,UART x 3 , I2C x 3, SPI x 2

**NM1120** : [QFN20<sub>\(4x4mm<sup>2</sup>\)</sub>/TSSOP20<sub>\(4.4x6.5mm<sup>2</sup>\)</sub>/TSSOP28<sub>\(4.4x9.7mm<sup>2</sup>\)</sub>](#)

29.5kB Flash with ISP, 48MHz  
4kB RAM, UART x 2, SPI x 2, I2C x 2, 32-bit  
Divider, 800 kHz 12-bit ADC with 2 S/H, 16-  
bit PWM, ECAP

**NM1100** : [TSSOP20<sub>\(4.4x6.5mm<sup>2</sup>\)</sub>](#)

17.5kB Flash with ISP, 48MHz, 2kB RAM,  
UART x 1, 500kHz 10-bit ADC with 1 S/H,  
32-bit Divider, 16-bit PWM

MCP

MCU +  
Gate Driver



LV

**NM18202/NM18107/NM18307\* Series (40V)**

[TSSOP28<sub>\(4.4x9.7mm<sup>2</sup>\)</sub>/QFN33<sub>\(5x5mm<sup>2</sup>\)</sub>/QFN48<sub>\(7x7mm<sup>2</sup>\)</sub>/QFN56<sub>\(7x7mm<sup>2</sup>\)</sub>](#)

32-bit Cortex<sup>®</sup>-M0 with 17.5kB/29.5kB/64kB Flash,  
2kB/4kB/16kB RAM, 12-bit ADC with 2 S/H, 16-bit  
PWM, 3-phase gate driver

HV

**NM1817 Series (600V)**

[LQFP44<sub>\(10x10mm<sup>2</sup>\)</sub>](#)

32-bit Cortex<sup>®</sup>-M0 with 29.5kB Flash,  
4kB RAM, 12-bit ADC with 2 S/H,  
16-bit PWM, 3-phase gate driver

**\*:Under Development**



# 成功案例分享

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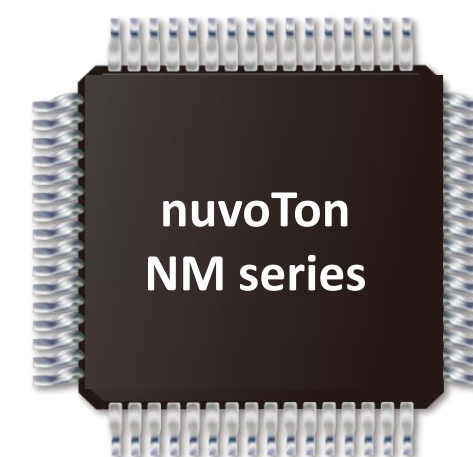
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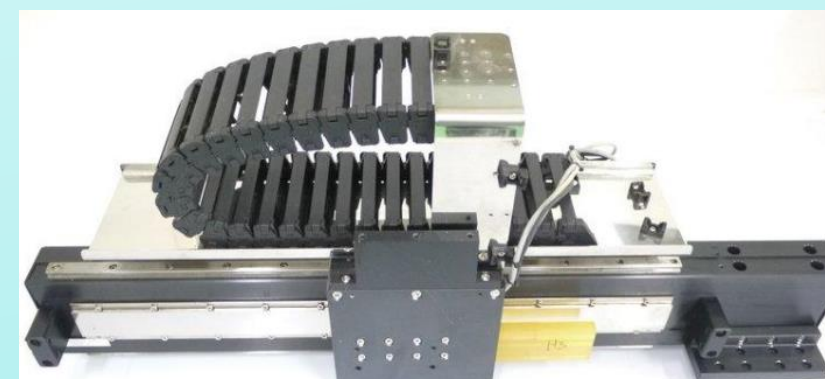
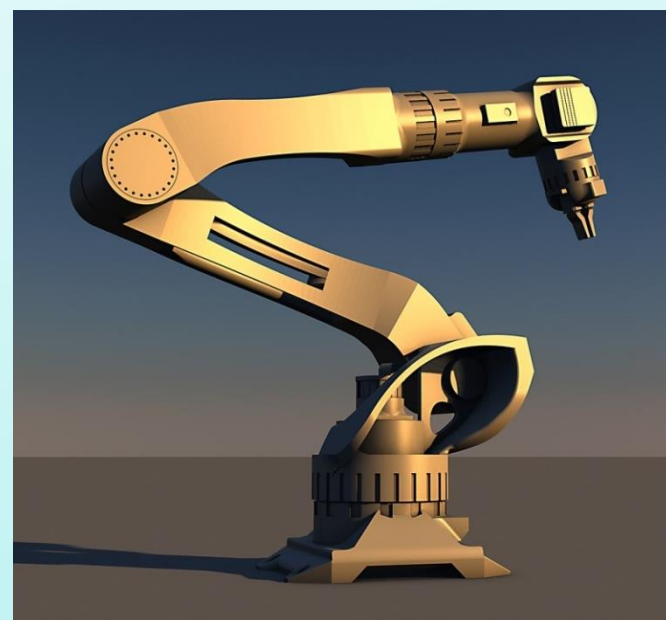
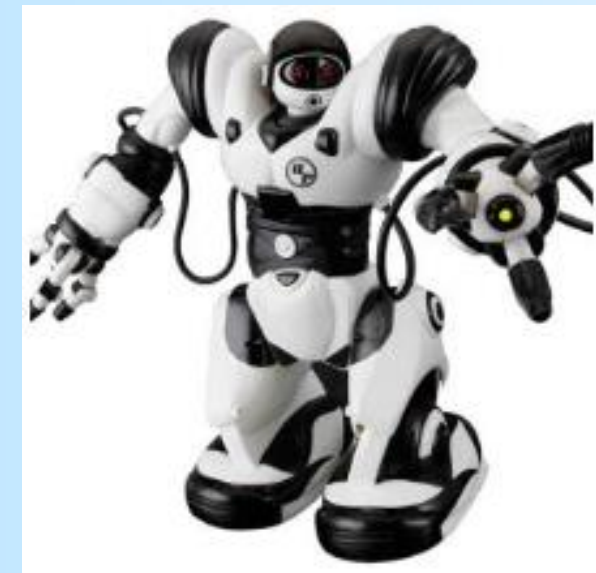
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其他





Nuvoton Motor MCU Product Selection Guide-1

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2020/09/22

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 10-bit	Comp 比較器	UART SPI I2C	MAX HCLK	Package Type
NM1100FBAE	17.5	2	17	2	6	8	2	1/0/0	48	TSSOP20
NM1200ZBAE	17.5	2	29	2	6	12	2	2/1/1	48	QFN33 (5x5)
NM1200LBAE	17.5	2	33	2	6	12	2	2/1/1	48	LQFP48 (7x7)

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	Package Type
NM1120XC1AE	29.5	4	18	2	6	8	2	2/2/2	48	2	3	1	3x0.5	QFN20 (4x4)
NM1120FC1AE	29.5	4	18	2	6	8	2	2/2/2	48	2	3	1	3x0.5	TSSOP20
NM1120EC1AE	29.5	4	22	2	6	8	2	2/2/2	48	2	3	1	3x0.5	TSSOP28

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	OPA	QEI (A/B/IDX)	DAC 12-bit	Package Type
NM1232D	32	8	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)
NM1232Y	32	8	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	QFN48 (7x7)
NM1233D	48	8	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)
NM1233Y	48	8	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	QFN48 (7x7)
NM1234D	64	16	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)
NM1234Y	64	16	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	QFN48 (7x7)
NM1235D*	64	16	60	4	6	16	2	3/2/3	72	2	3	1	3x0.5	4	1	2	LQFP64
NM1235Y*	64	16	60	4	6	16	2	3/2/3	72	2	3	1	3x0.5	4	1	2	QFN64 (9x9)
NM1236D*	128	16	96	4	12	20	2	3/2/3	72	2	6	1	3x0.5	4	2	2	LQFP100

# Nuvoton Motor MCU Product Selection Guide-2

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Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	CAN2.0	MDU	OPA	QEI (A/B/IDX)	Package Type
NM1520LD2AE	64	8	38	4	9	9	1	2/1/1	72	0	3**	1	√	2	1	LQFP48
NM1520RD2AE	64	8	51	4	12	14	2	2/1/1	72	1	3**	1	√	2	1	LQFP64
NM1520RC2AE	32	8	51	4	12	14	2	2/1/1	72	1	3**	1	√	2	1	LQFP64
NM1530VD3AE	64	16	82	4	12	16	3	2/3/1	72	2	6	1	√	2	2	LQFP100
NM1530VE3AE	128	16	82	4	12	16	3	2/3/1	72	2	6	1	√	2	2	LQFP100

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	OPA	QEI (A/B/IDX)	DAC 12-bit	Package Type
TF5102Y	48	8	30	4	6	12	2	3/2/3	72	1	3	1	3x0.5	1	1	2	QFN33 (4x4)
TF5103Y	64	16	30	4	6	12	2	3/2/3	72	1	3	1	3x0.5	1	1	2	QFN33 (4x4)
TF5103D	64	16	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	LDO	Package Type
NM18107Y	29.5	4	14	2	6	8	2	2/1/2	48	2	3	1	3x0.5	5V & 12V	QFN33 (5x5)

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 10-bit	Comp 比較器	UART I2C	MAX HCLK	LDO	Package Type
NM18202S	17.5	2	10	2	6	7	2	2/0	48	5V & 12V	TSSOP28
NM18202Y	17.5	2	23	2	6	12	2	2/1	48	5V & 12V	QFN48 (7x7)

# Nuvoton Motor MCU Product Selection Guide-3



Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	LDO	Package Type
NM1817NT	29.5	4	15	2	6	8	2	2/2/2	48	2	3	1	3x0.5	5V	LQFP44 (10x10)

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	OPA	QEI (A/B/IDX)	DAC 12-bit	LDO	Package Type
NM18307Y*	64	16	36	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	5V & 12V	OFN56 (7x7)

Part Number	Flash ROM (KB)	SRAM (KB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp 比較器	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (KB)	OPA	QEI (A/B/IDX)	DAC 12-bit	Package Type
NM1220EBK0*	48	8	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)

\* Under Planning  
\*\* from QEI Module

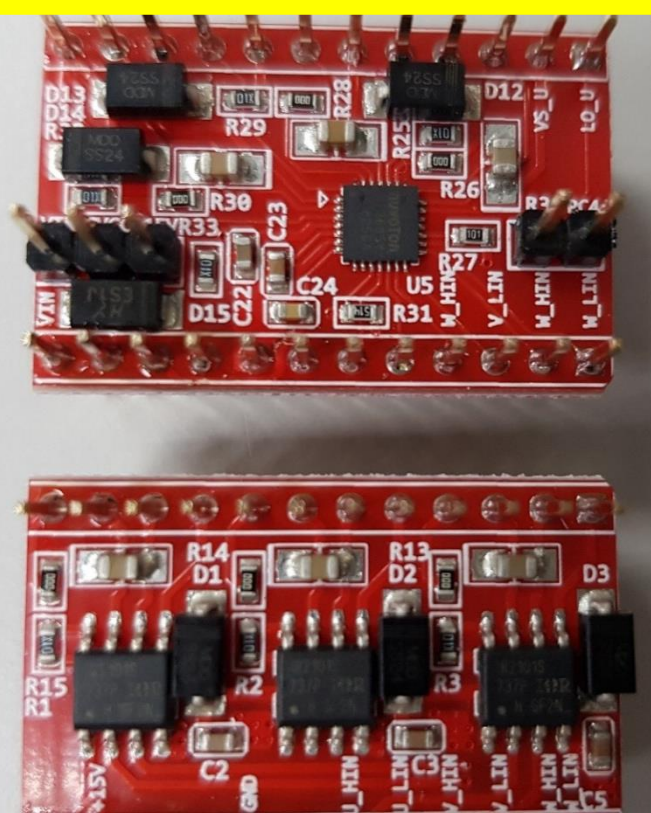


# Tool Kits for Development-HardWare



Nu-MDA-NM1200/Nu-MDA-NM1120  
Nu-MDA-NM1230/Nu-MDA-NM1530

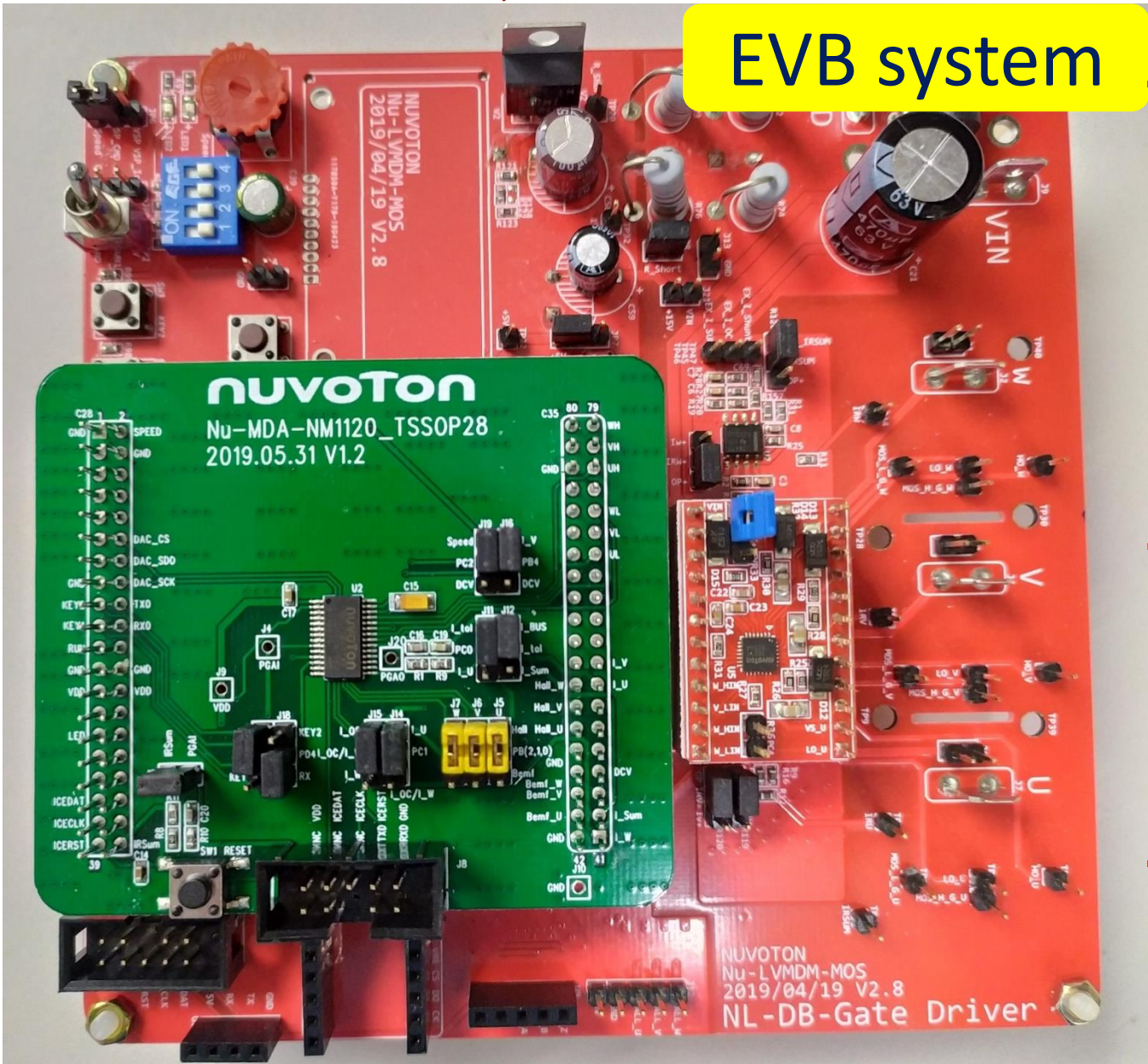
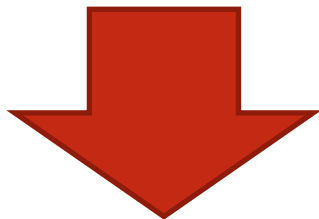
LV Gate Driver



HV Gate Driver



Nu-LVMDM-MOS

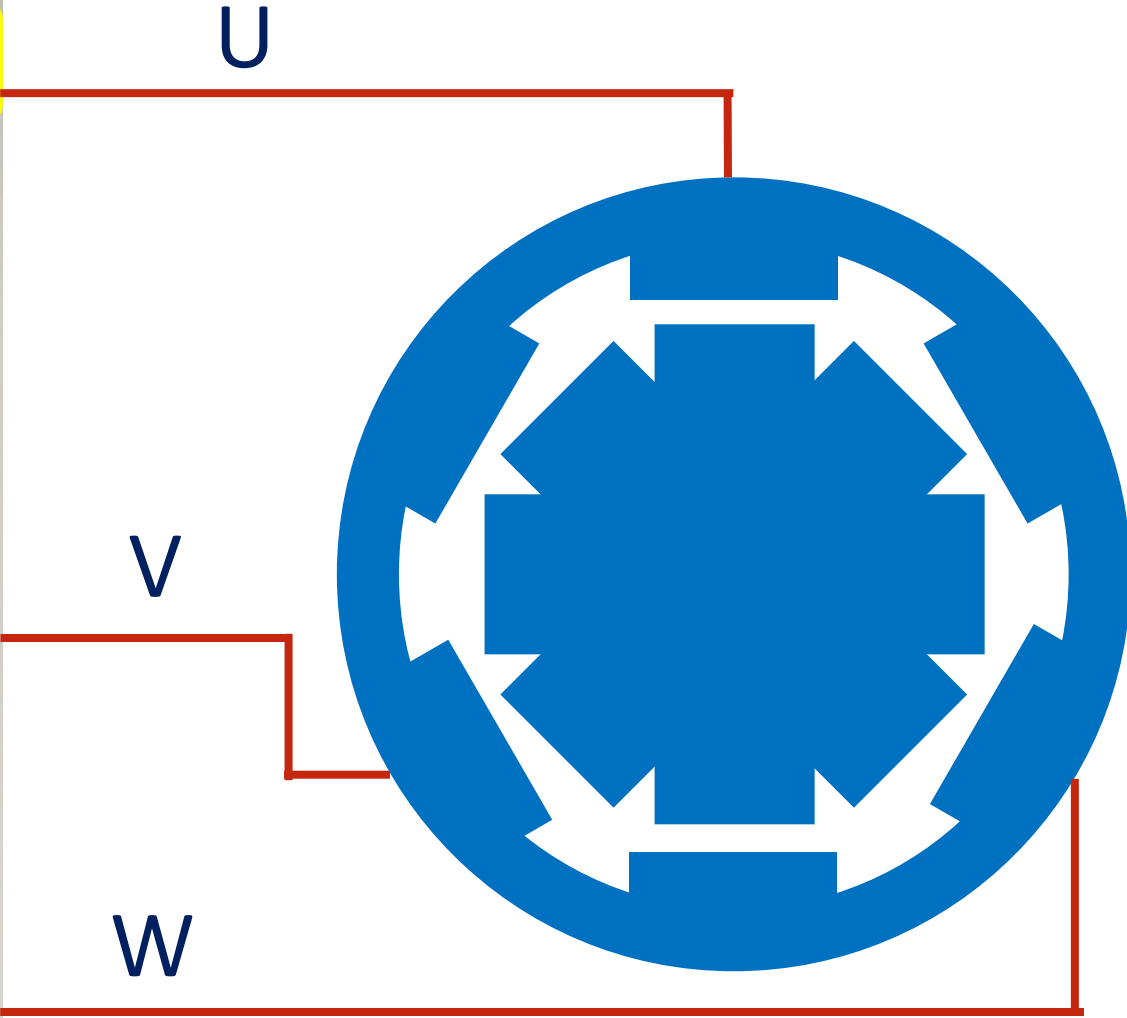


EVB system



Nu-Motor

USB





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<http://www.nuvoton-mcu.com/forum.php?mod=viewthread&tid=1819&fromuid=177288>

**Google**

[https://drive.google.com/open?id=1DC8Upv0HpY\\_EkQaQnYYrIANhjM-Dt5MP](https://drive.google.com/open?id=1DC8Upv0HpY_EkQaQnYYrIANhjM-Dt5MP)

