ROUNDSS®

Industrial Rotary Encoder

ROTARY
ENCODER
Precise speed, distance and position detection

PRODUCT **CATALOG**

- Absolute Rotary Encoders
- Incremental Rotary Encoders
- MPG & Handwheel
- Linear Encoders

ROUNDSS®

Industrial Rotary Encoder

Founded in 2006, Changchun Rongde Optics Co., Ltd locating in the optical industry base Changchun, is one of the leading manufacuters of rotary encoders and other related products for speed and angle measurement in industrial automation industry. With 5 subsidiaries in Guangzhou, Wuxi, Shanghai, Beijing and Xi'an as well as more than 30 representative offices around China, and multiple distributors abroad, like Russia, Germany, India, USA, Roundss maintains a presence all around the world.

Roundss with multiple kinds of independent intellectual property rights, has more than 130 employees, including 30 engineers. The 5% of the turnover is invested to product development. As the national high-tech enterprise, Roundss made outstanding contributions to national key projects.

Customer requirement, innovative technology as well as missionary focus, which has been built up over years, all form the basis of Roundss brand and first class products and make Roundss in the front rank of encoder industry. With the encoders production volume 200,000 pcs in 2013, Roundss worked with many global customers, such as FANUC, Bosch, Siemens.

The encoder automatic assembling line was introduced in 2012 for an efficient production. It succeeded in 2015 after the vast energy investment. A new factory with 10000 sq will be finished in 2016, together with the formal use of automatic assembling line, which is the guarantee of our 1,000,000 pcs production target per year.

Company Appearance

The high quality products
are ensured by advanced automation assembling lines technology, dust-free factory, first -class testing equipments. All encoders will be strictly tested according to industrial standard before leaving factory, including high-low temperature test, aging test, fatigue test, accuracy test to assure the reliability and stability of encoders.

Product Testing

Technical Office

Factory

Changchun Rongde Optics Co.,Ltd

www.roundssencoder.com

Overseas Market

Roundss has participated in numerous international exhibitions to present our innovative products and superior services in front of the world since 2012. Through the constant and active effort of Roundss staff, our products will be approved by more people.

Automation World-Seoul

SPS IPC Drives-Nuremberg

FEIMAFE-Sao Paulo

WIN-Istanbul

IMTEX-Bangalore

METALLOBRABOTKA -Moscow

International sales partners wanted!

- MOQ: 1 piece
- Customized service
- Maximum benefit of partners
- Free replacement of defective products within 18 months

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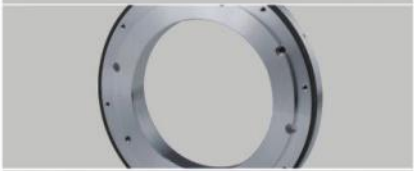
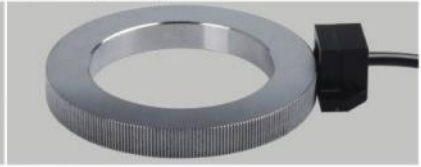
PARTNERSHIP

Rexroth Bosch Group	REXROTH BOSCH CHINA
SIEMENS	SIEMENS LTD.
FANUC	BEIJING FANUC
GFIA	ZHEJIANG GOLDEN FIRE MACHINE CO., LTD
BOCHI	BOCHI MACHINE TOOL GROUP CO., LTD.
华大科技 BGI tech	BGI TECHSOLUTIONS CO., LTD. (BGI-TECH)
SMTCL	SHENYANG MACHINE TOOL CO., LTD
CY	YUNNAN CY GROUP CO., LTD



ROTARY



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Absolute Encoder

ROUNDSS®
Industrial Rotary Encoder

TECHNOLOGIES :

- Singleturn and multiturn encoders
- Photoelectric sensing technology adopted to ensure high accuracy
- Absolute multiturn encoders with mechanical gear or electronic multiturn stage
- Integrative technology
- Multiple interfaces: SSI, MODBUS,Canopen, parallel or analogue
- Multiple mounting options

Applications:

Aerospace; Radar; Robotic; Military industry; Gears & motors; Wind power

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Single-turn Absolute Encoder

		Outer/shaft Dia(mm)	Resolution (bit)	Accuracy	Operating Voltage	Interface	Max Speed (r/min)	Protection Class	Operating Temp		
RDE38S		ϕ38/ϕ6	10-21	±20"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI/BISS	5000	IP64	-20(-40)-+65℃		RDE50S8
		ϕ50/ϕ8	10-17	±20"	DC5V±5% /DC9-30V	RS485/RS422/ Parallel/SSI	5000	IP64	-20(-40)-+65℃		
RDE58S10		ϕ58/ϕ10	10-18	±15"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI/BISS	5000	IP64	-20(-40)-+65℃		RDE58T20
		ϕ58/ϕ20	10-18	±15"	DC5V±5% /DC9-30V	RS485/RS422/ Parallel/SSI	2000	IP64	-20(-40)-+65℃		
RDE84T30		ϕ94/ϕ30	12-20	±7.5"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI	2000	IP54	-20(-40)-+65℃		RDE108T40
		ϕ108/ϕ40	12-19	±10"	DC5V±5% /DC9-30V	RS485/RS422/ SSI	800	IP54	-20(-40)-+65℃		
RDE165T60		ϕ165/ ϕ60	18-22	±3"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI	800	IP54	-20(-40)-+65℃		RDE206T
		ϕ206/ ϕ60-100	21-24	±2"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI	800	IP54	-20(-40)-+65℃		

Multi-turn Absolute Encoder

		Outer/shaft Dia(mm)	Resolution (bit)	Accuracy	Operating Voltage	Interface	Max Speed (r/min)	Protection Class	Operating Temp		
RDE38S		ϕ38/ϕ6	16/12	±20"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI	3000	IP64	-40-+65℃		RDE65S10
		ϕ58/ϕ10	13/12	±15"	DC5V±5% /DC9-30V	RS485/RS422/ SSI/BISS/MODBUS/ CANopen	3000	IP65	-40-+65℃		
RDE84T30		ϕ94/ϕ30	20/12	±7.5"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI/MODBUS	3000	IP54	-40-+65℃		RDE108T40
		ϕ108/ϕ40	19/12	±7.5"	DC5V±5% /DC9-30V	RS485/RS422/ RS232/SSI/MODBUS	3000	IP54	-40-+65℃		

Nonmagnetic absolute encoders and customized encoders are available.
Please find the details on website.

Incremental Encoder

Versatile, compact and flexible Incremental encoders

- Photoelectric sensing technology adopted to ensure high accuracy
- High precision heavy duty bearing for a long lifetime
- Frequency response up to 400kHZ
- Universal mounting dimensions
- High resolution up to 180000 lines on request

Incremental rotary encoders can be used in all applications that require monitoring rotation rate,speed, acceleration and direction.

Lift; Textile Machines; CNC Machine Tools; Packing Machines; Conveyor Industry

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Solid Shaft Encoders

		Outer/shaft Dia(mm)	Resolution (ppr)	Operating Voltage	Interface	Output Signal	Max Speed (r/min)	Protection Class	Operating Temp		
RCC25S		ϕ25/ϕ4	20-1200	DC5V/8-26V	Open collector, TTL	A.B.Z	6000	IP64	-20~+85℃		RCC30S
		ϕ30/ϕ4	36-1200	DC5V/8-26V		A.B.Z	6000	IP64	-20~+85℃		
RCC36S		ϕ38/ϕ6	30-500	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP64	-20~+85℃		DCC50S
		ϕ50/ϕ8	100-6000	DC5V/8-26V		A.B.Z/A-A, B-B.Z-Z	6000	IP65	-20~+85℃		
DTC56S10A		ϕ58/ϕ10	100-6000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP65	-20~+85℃		DCC58.1S
		ϕ58/ϕ5-ϕ10	100-6000	DC5V/8-26V		A.B.Z/A-A, B-B.Z-Z	6000	IP65	-20~+85℃		
RCC58.2S		ϕ58/ϕ6-ϕ10	100-6000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP64	-20~+85℃		RTC86S15
		ϕ66/ϕ15	100-6000	DC5V/8-26V		A.B.Z/A-A, B-B.Z-Z	6000	IP65	-20~+85℃		

End /Through Hollow Shaft Encoders

DCC38H/T		ϕ38/ϕ6.ϕ8	30-5000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP54	-20~+85℃		RCC50H\T
		ϕ50/ϕ6-ϕ12	30-5000	DC5V/8-26V		A.B.Z/A-A, B-B.Z-Z	6000	IP54	-20~+85℃		
RCC58H/T		ϕ58/ϕ6-15	30-5000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP54	-20~+85℃		

Through Hollow Shaft Encoders

REC80B		ϕ80 ϕ18-30	100-5000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP52	-20~+85℃		REC100B30
		ϕ100 ϕ20-30	100-5000	DC5V/8-26V		A.B.Z/A-A, B-B.Z-Z	6000	IP52	-20~+85℃		
REC100B45		ϕ100 ϕ30-50	100-5000	DC5V/8-26V	Open collector, TTL,HTL, RS422	A.B.Z/A-A, B-B.Z-Z	6000	IP52	-20~+85℃		

Nonmagnetic incremental encoders and customized encoders are available. Please find the details on website.

Manual Pulse Generator

MPG is applicable to CNC machines by providing HOME position, step adjustment and interrupt signal.

- Precise 90°phase of A and B signals to ensure accurate position control
- Oil and dust proof, and water resistant
- Standard 3 meter spiral cables get through 500,000-1000,000 times stretching test
- Compatible with SIEMENS,FANUC,GSK,Mitsubishi systems

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Electronic Handwheel

		Body Dimension (mm)	Operating Voltage	Interface	Resolution (ppr)	Housing Material		
RHC60.1		ϕ60	DC5V	TTL,RS422	25/100	Metal		RHC60.3
		ϕ60	DC5V	TTL,RS422	25/100	Plastic		
RHC60.4		ϕ60	DC5V	TTL,RS422	25/100	Metal		RHC60.1
		ϕ80	DC5V	TTL,RS422	25/100	Metal		
RHC60.2		ϕ80	DC5V	TTL,RS422	25/100	Metal		RHC60.3
		ϕ80	DC5V	TTL,RS422	25/100	Plastic		

MPG Pendent

		Body Dimension (mm)	Axis No	Resolution Switch	Emergency Stop Switch	Enable Switch	Operating Voltage	Interface	Resolution (ppr)		
RSA		164*80*60	X.Y.Z.4.	X1.x10.x100	optional	optional	DC5V	TTL, RS422	25/100		RSB
		190*85*66	X.Y.Z.4.	X1.x10.x100	optional	optional	DC5V	TTL, RS422	25/100		
RSC		127*74*58	X.Y.Z.4.	X1.x10.x100	N/A	N/A	DC5V	TTL, RS422	25/100		RSD
		154*70*54	X.Y.Z.4.	X1.x10.x100	N/A	N/A	DC5V	TTL, RS422	25/100		
RSE		197*85*78	X.Y.Z.4.	X1.x10.x100	N/A	N/A	DC5V	TTL, RS422	25/100		RSF
		154*70*65	X.Y.Z. 4.5.6.	X1.x10.x100	optional	N/A	DC5V	TTL, RS422	25/100		
RSG		167*90*70	X.Y.Z. 4.5.6.	X1.x10.x100	optional	optional	DC5V	TTL, RS422	25/100		RSH
		167*90*70	X.Y.Z. 4.5.6.	X1.x10.x100	optional	optional	DC5V	TTL, RS422	25/100		

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Magnetic Ring Encoder

- Applicable to CNC machine tools.
- Noncontact measurement.Long life.
- With the same advantage as integrated encoder.
- High protection class IP65.
- No need to change the original construction of machine tools when mounting.
- Mount it at the position of original synchronous pulley.
- Mount readhead and ring seperately.

		Outer Dia./ Max Hole(mm)	Resolution (ppr)	Interface	Output Signal	Operating Voltage	Max Speed (r/min)		
RTD82		ϕ82/ϕ60	128-16384	RS422	A.-A.B.-B.Z.-Z.	DC5V	12000		RTD115
		ϕ115/ϕ85	128-16384	RS422	A.-A.B.-B.Z.-Z.	DC5V	12000		
RTD122		ϕ122/ϕ90	128-16384	RS422	A.-A.B.-B.Z.-Z.	DC5V	12000		RTD163
		ϕ163/ϕ135	128-16384	RS422	A.-A.B.-B.Z.-Z.	DC5V	12000		

Optical Bearingless Spindle Encoder

- Applicable to CNC machine tools
- Bearingless design for prolonging service life; Low failure rate, stable and reliable; Optical structure with high anti resistance; Higher vibration resistance.
- Adjustable axial mounting range; Easy Mounting without aid of mounting accessory. Low maintainance cost; Stable installation construction.
- The processing efficiency of machine tools increased (10000rpm). Completely synchronous with machine tool spindle without synchronous pulley.

		Outer Dia./ Max Hole(mm)	Resolution (ppr)	Interface	Output Signal	Operating Voltage	Max Speed (r/min)	
STS165T		ϕ185/ϕ76/95/100	1024	RS422	A.-A.B.-B.Z.-Z.	DC5V±0.25V	10000	STS256T
		ϕ256/ϕ130	2048	RS422	A.-A.B.-B.Z.-Z.	DC5V±0.25V	8000	

Servo Motor Encoder

Servo motor encoder is mounted to servo motor to measure the position of magnetic poles,and report angle and speed information of motor.

- Ultra-thin design
- Straight shaft and taper shaft are optional
- With high sensitive photosensitive components,high frequency response
- Square wave and RS485 output with UVW signals
- Max resolution to 32 bit

		Outer/shaft Dia.(mm)	Resolution	Operating Voltage	Interface	Output Signal	Max Speed (r/min)	Protection Class	Operating Temp	
DVC37T		ϕ37/ ϕ8.ϕ9	2500 ppr	DC5V	RS422	U-,U,V-,V,W-,W,A-,A,B-,B,Z-,Z	6000	IP50	-20~+85℃	DVC48T
		ϕ48/ ϕ8.ϕ9	1000-6000ppr	DC5V	RS422	U-,U,V-,V,W-,W,A-,A,B-,B,Z-,Z	6000	IP50	-20~+85℃	
DVA48T		ϕ48/ ϕ8.ϕ9	17X16bit	DC5V	RS422	Binary	6000	IP50	-20~+85℃	

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Digital Code Rotary Switch

Rotary switch with multiple switching functions are applicable to the machine tool's operation panel for axis selection, feed rate and override, etc.

- Solid metal housing and clear graduation
- 15, 30, 13.85 degrees for options
- With firm and skid-proof shafts
- Including inhibit and parity signal to avoid error occurrence
- Metal (Gold) coating contact points for stable and highly effective performance
- Waterproof design (IP65) and built-in O-ring
- Design for easy installation
- Saving wiring operation and input signal point

	Digital Code	Starting Position	End Position	Gear Angle	Connection Type
RDN	Hexadecimal Code/ Binary Cyclic Code	0	0	13.85/15/ 30/20/27.69	Vertical Plug Horizontal Plug

Gear Tooth Encoder

Standard gear: 128 gears and 256 gears are available.The sensor is internally biased with a permanent magnet and detects the interaction from an external ferrous gear wheel. And it outputs 1VPP or TTL(RS422 Line Driver) after signal amendment and division.

FEATURES:

- The non-contact, frictionless design ensures long-term reliability and simple installation
- Direct transmission to avoid the backlash.
- 0.3mm,0.4mm,0.5mm modules are optional.
- High frequency response 0-6000KHZ. 1VPP and TTL output signal.
- Compact built-in inductive head applicable to small installation space.
- High protection class (IP68) for harsh environment.
- Stable positioning precision of quick drilling and tool change.

	Outer/shaft Dia.(mm)	Resolution (ppr)	Interface	Output Signal	Operating Voltage	Max Speed(r/min)
RDG	ϕ39-ϕ513 Optional	128-4096	1Vpp/TTL	A.-A.B.-B.Z.-Z.	DC5V	12000

Draw Wire Sensor

Draw wire displacement sensor is particularly suitable for linear guide systems, hydraulic cylinder system, testing machines, telescopic system, storage location positioning, pressure machinery, paper machinery, textile machinery, sheet metal machinery, packaging machinery, printing machinery, level control device, construction machinery and other related dimensional measurement and position control. Draw wire sensor is of low-cost but high-precision, which can replace optical grating encoder.

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Incremental Type Draw Wire Sensor

		Body Dimension (mm)	Output Type	Range (mm)	Resolution (ppr)	Linearity	Interface	Operating Voltage	Protection Class	
RLC40D		40*40	Digital output	0-600	1000-5000	0.05%FS	Open collector, TTL,HTL, RS422	DC5V/8-26V	IP54	RLC50D
		50*50	Digital output	0-1500	1000-5000	0.05%FS		DC5V/8-26V	IP54	
RLC63D		63*63	Digital output	0-2500	1000-5000	0.05%FS	Open collector, TTL,HTL, RS422	DC5V/8-26V	IP54	RLC78D
		78*78	Digital output	0-3000	1000-5000	0.05%FS		DC5V/8-26V	IP54	
RLC95D		95*95	Digital output	0-4000	1000-5000	0.05%FS	Open collector, TTL,HTL, RS422	DC5V/8-26V	IP54	

Analog Type Draw Wire Sensor

		Body Dimension (mm)	Output Type	Range (mm)	Linearity	Output signals	Operating Voltage	Protection Class	
RLP40S		40*40	Analog output	0-500	0.1%-0.05%FS	0-5V/0-10V/ 4-20mA/0-5K/0-10K	DC5V/12V/24V	IP54	RLP50S
		50*50	Analog output	0-1000	0.1%-0.05%FS	0-5V/0-10V/ 4-20mA/0-5K/0-10K	DC5V/12V/24V	IP54	
RLP63S		63*63	Analog output	0-1500	0.1%-0.05%FS	0-5V/0-10V/ 4-20mA/0-5K/0-10K	DC5V/12V/24V	IP54	RLP78S
		78*78	Analog output	0-3000	0.1%-0.05%FS	0-5V/0-10V/ 4-20mA/0-5K/0-10K	DC5V/12V/24V	IP54	
RLP95S		95*95	Analog output	0-4000	0.1%-0.05%FS	0-5V/0-10V/ 4-20mA/0-5K/0-10K	DC5V/12V/24V	IP54	

Multi-turn Absolute Type Draw Wire Sensor

		Body Dimension (mm)	Output Type	Range (mm)	Resolution (bit)	Linearity	Interface	Operating Voltage	Protection Class
RLA		Optional	Digital output	0-6000	13*12	0.05%FS	SSI,CANopen, RS485,Modbus	DC5V/8-26V	IP54

Flexible Coupling

Coupling is a mechanical part, used to connect two different shafts (drive shaft and the driven shaft) to rotate together to transmit torque.
In the high-speed heavy-duty power transmission, some couplings also have the functions of cushioning, vibration and improving the dynamic performance of shafting.
Composed by two coupling halves, respectively, with the drive shaft and the driven shaft coupling.
Most of the general power machine connects with the machine by means of couplings.

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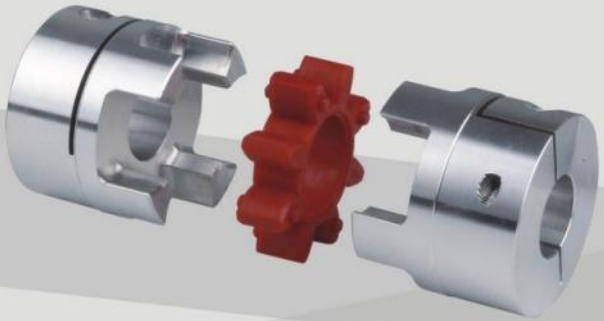

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		Type	Outer Dia. (mm)	Length (mm)	Standard Bore(mm)		
RD1-C		Spider Clamp Flexible Coupling	20-105	30-140	3-60		RD1-S
		Spider Screw Flexible Coupling	20-105	30-140	3-60		
RD2-AS		Single Diaphragm Clamp Coupling	34-82	27.3-68	4-32		RD2-AD
		Double Diaphragm Clamp Coupling	34-82	37.8-98	4-32		
RD2-BS		Single Diaphragm Clamp Coupling	26-82	23.15-68	4-45		RD2-BD
		Double Diaphragm Clamp Coupling	26-82	32.3-98	4-45		
RD2-CD		Expansion Bushing Double Diaphragm Clamp Coupling	70-100	78-87	19-60		RD3-A
		Single-wall Bellows Clamp Coupling	16-32	26.5-42	4-14		
RD3-B		Double-wall Bellows Clamp Coupling	17-99	31.5-100	3-54		RD3-E
		Expansion Bushing Bellows Coupling	40-82	55-88	10-38		
RD4-S		Helical Screw Coupling	16-51	22-50.8	3-19		RD4-C
		Helical Clamp Coupling	16-51	22-51	3-19		
RD5-AD		Metal Plate Spring Coupling	42	39	6-15		RD6-A
		Parallel Screw Coupling	13-25	22-32	4-10		
RD6-B		Fiber Glass Screw Coupling	13-25	22-32	4-10		RD7-C
		Odham Clamp Coupling	16-50	18-58	3-20		
RD7-S		Odham Screw Coupling	16-50	18-58	3-20		RD8-C
		Parallel Clamp Coupling	12-63	18.5-90	4-18		
RD8-S		Parallel Screw Coupling	12-63	18.5-90	4-18		

Linear Scale

A linear encoder is a sensor, transducer or readhead paired with a scale that encodes position.

The sensor reads the scale in order to convert the encoded position into an analog or digital signal, which can then be decoded into position by a digital readout (DRO) or motion controller.

Linear scales are widely used on lathe, milling machine, grinding machines.

	MesuringRange(mm)	Resolution	Operating Voltage	Interface	
RLM	1000-3000	1u/5u	DC5V/8-26V	TTL,RS422	RLS
	0-1000	1u/5u	DC5V/8-26V	TTL,RS422	

Digital Readout

A digital readout (DRO) is a display unit which reads the signals generated by the linear encoder (or less frequently by rotary encoders) installed to several machine axes, used to display the position , speed and angle of workpiece (milling and the like) or tool (lathes and grinders).

Body Dimension	Display Range	Axis No	Display Mode	Operating Voltage	Interface
26.5*18cm	8LED	2/3	Digital	AC110~240V	TTL square wave

Length Gauge

Length gauge is a high-precision macro-measuring instrument for many industrial applications and testing organizations.
Following the Abbe principle and high-precision linear gratings measuring standard, it is designed to ensure the best mechanical and thermal stability.
Length gauge is widely used in a variety of applications, including precision workpiece detection, multi-point detection, measuring equipment monitoring and position measurement.

RDC	Measuring Range	Operating Voltage	Resolution
	0-16.8mm	DC5V ± 5%	1u

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