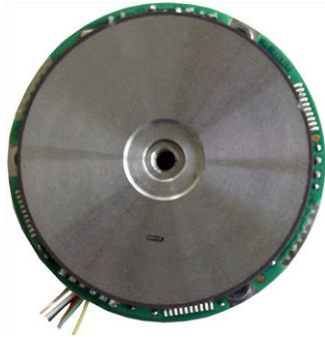


绝对值，磁性编码器元件 $\phi 40\text{mm}$

Rotational Absolute Magnetic Kit Encoder Version 40 mm HP Displacement Sensor


FEATURES

- 尤其适合于恶劣环境，抗振动、冲击等等 (vibrations, shocks, CEM, ...)
- 不受外部磁场和温度的影响 Not sensitive to external magnetic fields and temperature
- 不受外部磁场和温度的影响 Not sensitive to moisture and pollution
- 即插即用 Plug and play
- Small error due to misalignment
- 霍尔效应技术 Hall effect principle
- 高精度 13Bits High Precision (HP)
- 保护专利 Protected design, patent 专利号 EP 2711663
- 材料分类认证: 认证规格和体系 (compliance), 产品标签
- 说明, 详细见 www.vishay.com/doc?99912


DESIGN SUPPORT TOOLS
[click logo to get started](#)


三维设计文件

QUICK REFERENCE DATA

传感器类型	旋转角度传感器, 磁性霍尔技术
信号输出连接	导线和线缆 Wires or cables
应用市场	工业 Industrial
尺寸 Dimensions	直径 ϕ 40.65 mm

电气参数 ELECTRICAL SPECIFICATIONS

PARAMETER	
供电电压 Voltage supply	5 V \pm 0.25 V (9 V ~ 35 V 可选项)
供电电流 Current supply	\leq 110 mA max. at 5 V
信号输出接口 Output	SSI (SPI 可定制)
信号输出连接 Connection	Ultra-flex AWG32 wires 超柔性AWG32线标号 (屏蔽线缆和插头, 可根据需要)
有效测量角度 Useful electrical angle	360° (单圈 single turn)
绝对精度 Absolute accuracy 在 25 °C环境下	\pm 0.03° > 13 bits
绝对精度 Absolute accuracy 在 -40 °C ~ +105 °C	\pm 0.05° ~ 13 bits
分辨率 Resolution	0.0017° (> 17 bits, 212 992 点 points)
启动时间 Startup time	\leq 20 ms
刷新时间 Refresh time	\leq 100 μ s
恢复时间 Latency time	\leq 200 μ s
采样频率 Sampling rate	10 kHz \pm 5 %

机械参数 MECHANICAL SPECIFICATIONS

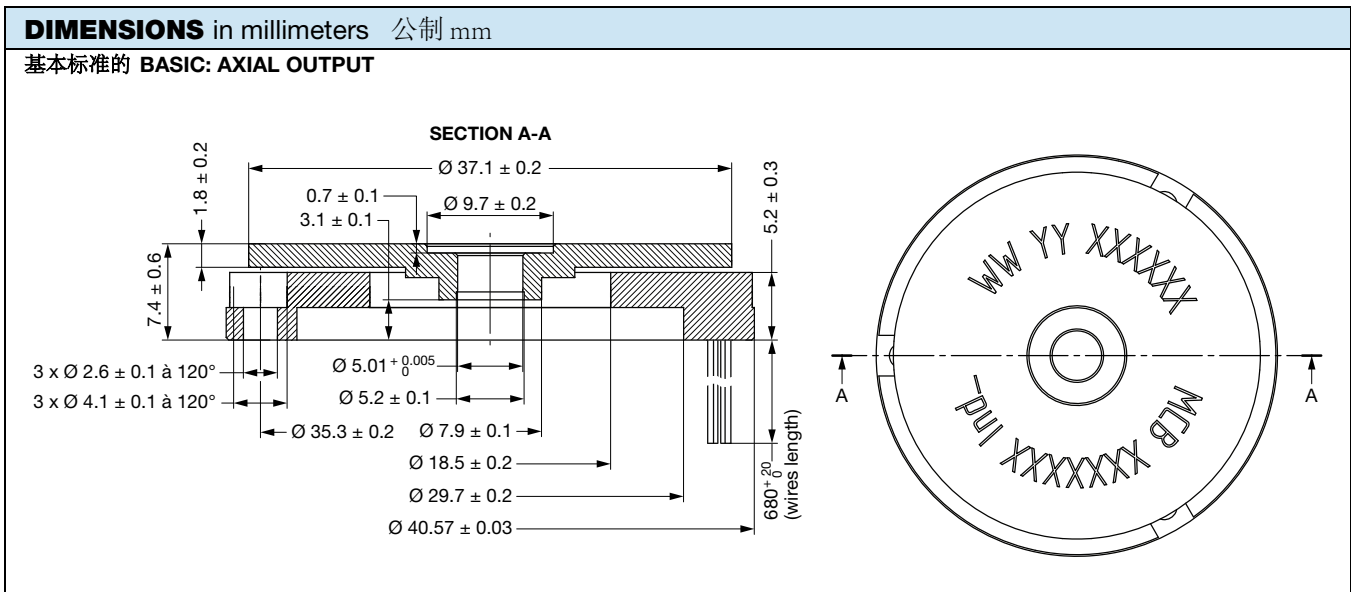
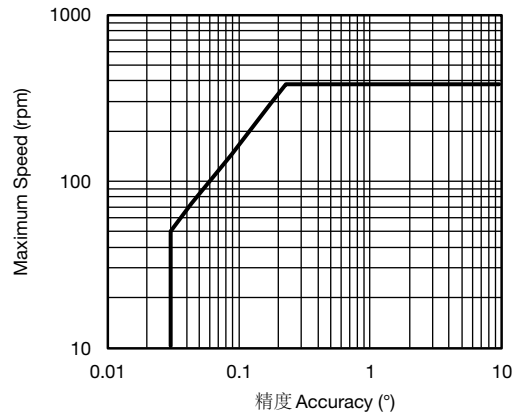
PARAMETER	
机械行程 Mechanical angle	360°
最大转速 Maximum speed rotation	50 rpm (可达 380 rpm 相应减小精度, 参见最大转速 vs. 精度曲线 "Maximum Speed vs. Accuracy" chart)
最大机械转速 Maximum mechanical speed	9000 rpm (更多的, 可定制 on request)
重量 Weight	Rotor: 12 g \pm 1 g; stator: 16.5 g \pm 1 g

SAP 订购型号说明 SAP PART NUMBERING GUIDELINES

TYPE	MODEL	DESIGN	SIZE (mm)	TYPE	FUNCTION	ACCURACY (BITS)	RESOLUTION (BITS)	OUTPUT	PACKAGING
R = rotational	AM	K = kit	040	M	1	13	17	J = SSI CCW	B = box

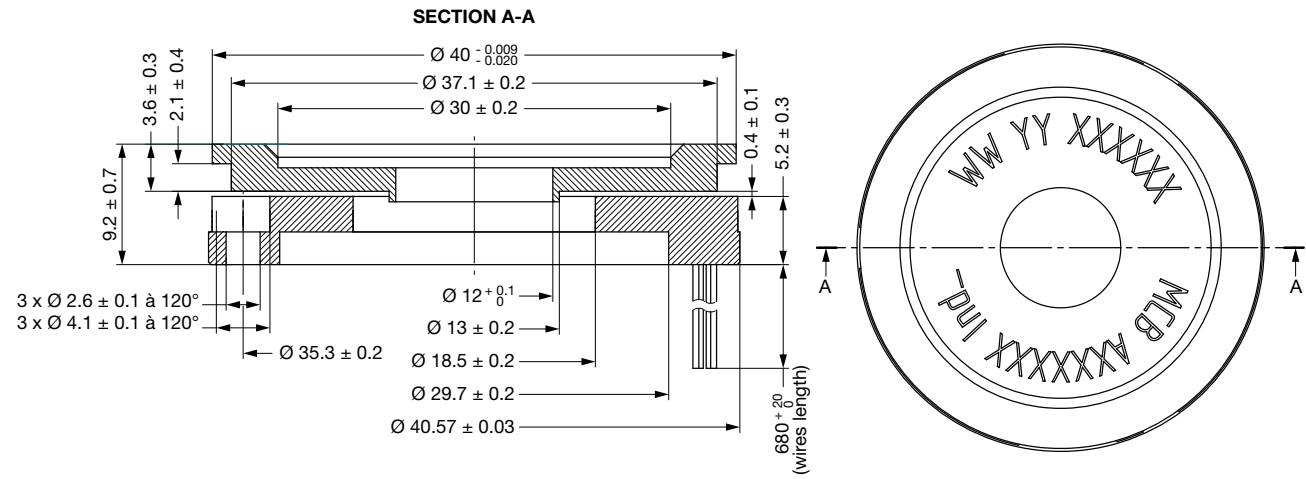
环境参数 PERFORMANCE	
PARAMETER	
工作温度 Operating temperature	-40 °C ~ +105 °C (-55 °C ~ +105 °C 可定制 on request)
贮藏温度 Storage temperature	-45 °C ~ +105 °C (-55 °C ~ +105 °C 可定制 on request)
加速度 Acceleration	70 g for 1 s
振动 Vibration	0.05 g ² /Hz, 20 Hz to 2000 Hz for 1 h along the three major axis
冲击 Shock	180 g, 14 ms, 1/2 sine
EMC	MIL-STD-461F - CS114: conducted susceptibility, bulk cable injection, 10 kHz to 200 MHz table VI army ground level common mode injection and differential mode on positive - RS101: magnetic susceptibility, magnetic field, fig. RS101-2 from 30 Hz to 100 kHz - RS103: radiated susceptibility, electric field, 2 MHz to 18 GHz (level: 50 V/m) - RE102: radiated emissions, electric field, fig. RE102-4 - navy mobile and army - 10 kHz to 16 MHz
湿度 Humidity	HR ≤ 80 % (non-condensing)

MAXIMUM SPEED VS. ACCURACY CHART 最大转速 vs. 精度 曲线图

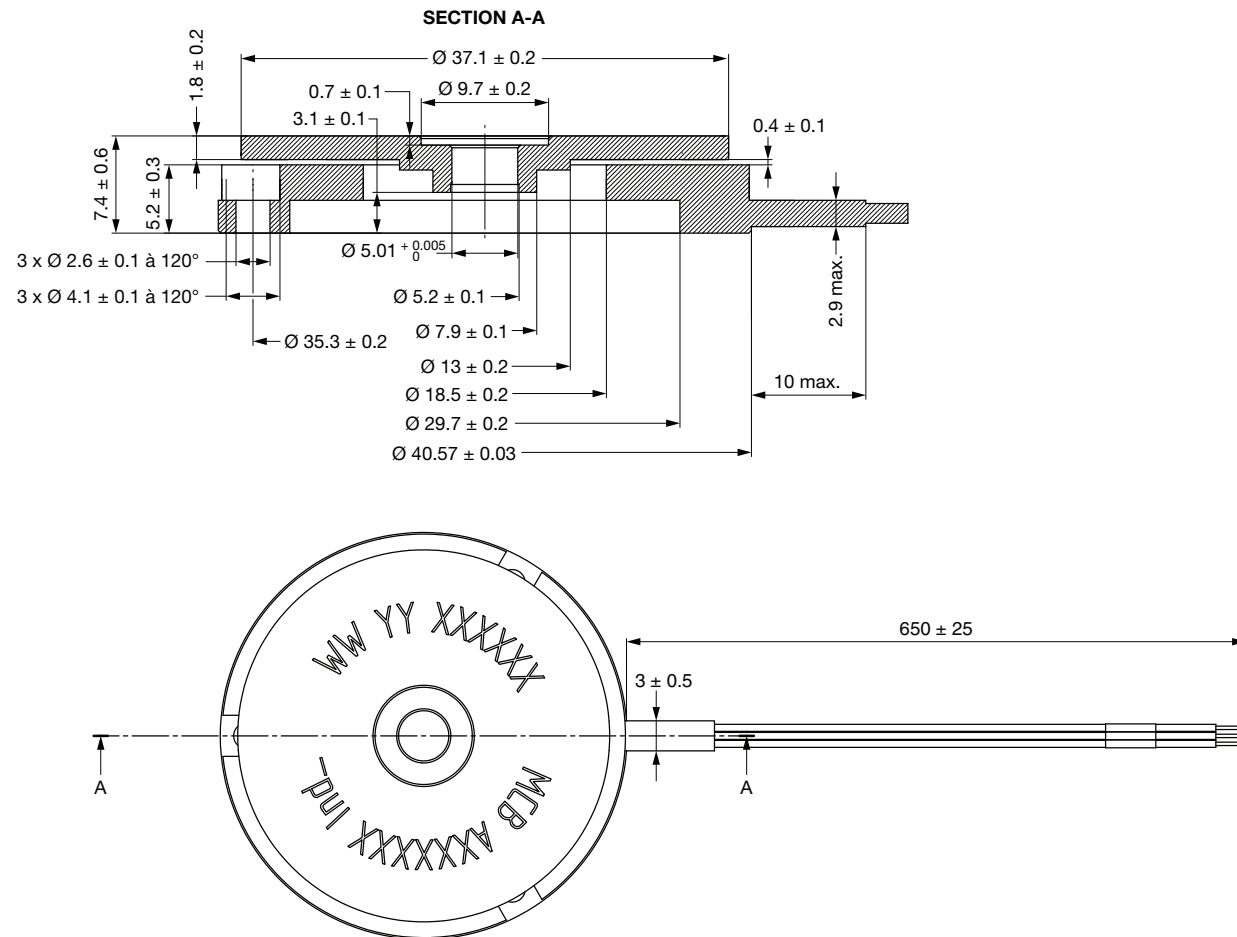


DIMENSIONS in millimeters

可选项 OPTION ON REQUEST: ANOTHER INTERFACE FOR THE ROTOR



可选项 OPTION ON REQUEST: RADIAL OUTPUT



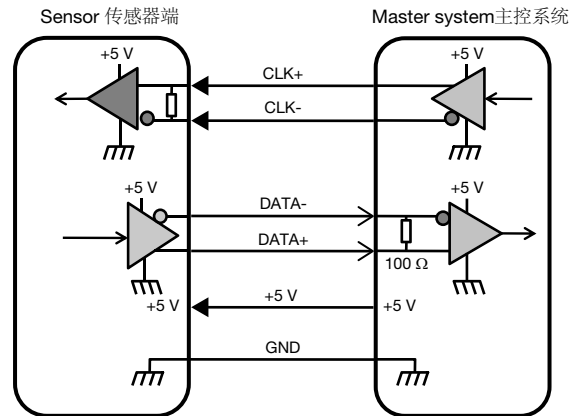
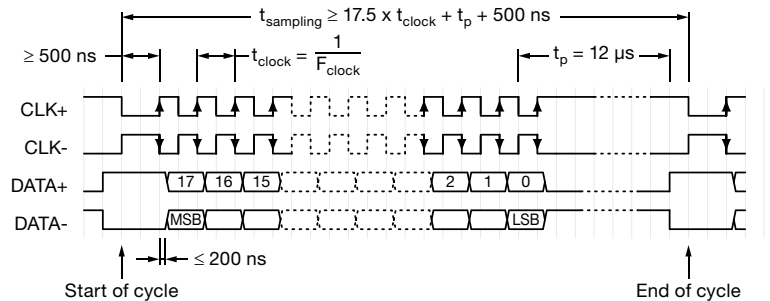
ELECTRICAL INTERFACE DESCRIPTION - SSI 接口 INTERFACE

6 线连接 WIRES CONNECTIONS		
NAME	WIRE COLOR	
GND	Black	Blue ⁽¹⁾
+5 V	Red	White ⁽¹⁾
CLK+	White	Blue ⁽¹⁾
CLK-	Clear	White ⁽¹⁾
DATA+	Yellow	Blue ⁽¹⁾
DATA-	Green	White ⁽¹⁾

Note

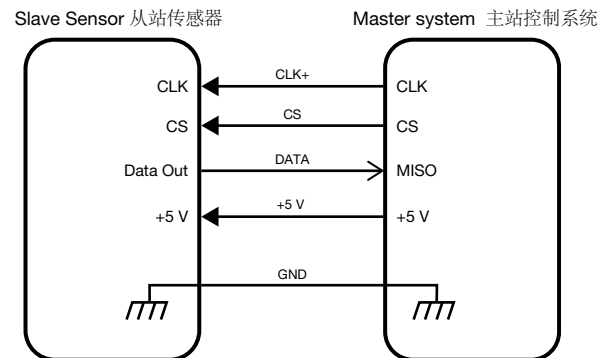
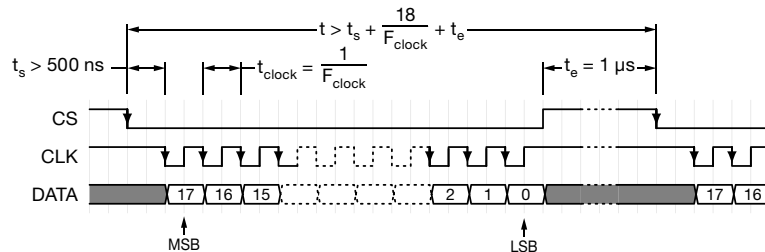
⁽¹⁾ With marking sleeve (S, C, or D)

SSI 接口定义 PARAMETERS	
Output code	Binary
Data differential interface	RS422 according to EIA-RS422
CLK differential interface	RS422 according to EIA-RS422
Minimum clock frequency	300 kHz
Maximum clock frequency	4 MHz
Data bit (n)	18 bits


Timing Diagram 时序图

ELECTRICAL INTERFACE DESCRIPTION - SPI 接口 INTERFACE (可定制 on request)

5 线连接 WIRES CONNECTIONS	
NAME	WIRE COLOR
GND	Black
+5 V	Red
CLK	White
DATA	Clear
CS	Yellow

SPI 接口定义 PARAMETERS	
Output code	Binary
Minimum clock frequency	300 kHz
Maximum clock frequency	4 MHz
Data bit (n)	18 bits


Timing Diagram 时序图

OPTIONS

- Other design on request (mechanical interfaces, electrical interfaces, ...)



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