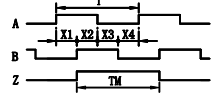


# HMA 系列 旋转编码器 ROTARY ENCODER

## 使用说明书 INSTRUCTION MANUAL

- 1、购买产品的客户，在使用前，请详细阅读本说明书。
- 2、请客户妥善保管本说明书

### 输出波形 OUTPUT WAVEFORMS



- 波形比率 SYMMETRY  
X1+X2=0.5T±0.1T  
X2+X3=0.5T±0.1T
- 相位差 PHASE SHIFT  
Xn>0.15T (n=1, 2, 3, 4)
- 零位信号宽 ZERO SIGNAL WIDTH  
TM=1T±0.5T

T=360°/N (N为每转, B相脉冲数)  
(N IS THE NUMBER OF A & B CHANNEL OUTPUT PULSES PER REVOLUTION)  
本图为从输出轴方向看顺时针(CW)旋转的波形  
THIS FIGURE SHOWS THE WAVEFORMS WHEN A SHAFT IS ROTATED CLOCKWISE (CW) VIEWING ENCODER CONNECTION BOARD.

### 机械参数 MECHANICAL SPECIFICATIONS

最大转速 SLEW SPEED:	6000r/min
径向负荷 RADIAL DIRECTION:	20N
轴向负荷 AXIAL DIRECTION:	10N
重量 WEIGHT:	0.18Kg
防护等级 CONSTRUCTION:	IP50
工作温度 OPERATING TEMPERATURE:	-10° C...+70° C
贮存温度 STORAGE TEMPERATURE:	-20° C...+80° C
抗冲击 SHOCK RESISTANCE:	100m/s <sup>2</sup> , 6ms
抗振动 VIBRATION RESISTANCE:	100m/s <sup>2</sup> , 10...200Hz
启动转矩 STARTING TORQUE (AT 25°C):	15X10 <sup>-3</sup> N.m

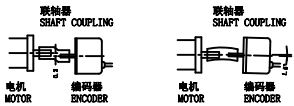
### 配线说明 CONNECTION SPECIFICATIONS

线色 COLOR OF CABLE	白 WHITE	黑 BLACK	红 RED	粉 PINK	绿 GREEN	蓝 BLUE	黄 YELLOW	橙 ORANGE	屏蔽线 SHIELD
驱动器 LINE DRIVER	Vcc	0V	A	A\	B	B\	Z	Z\	-
互补/电压/电流 COMPLEMENTARY VOLTAGE OPEN COLLECTOR	Vcc	0V	A	-	B	-	Z	-	-

### 安装注意事项 INSTRUCTION FOR INSTALLATION

#### 机械方面 THE MECHANICAL ASPECT

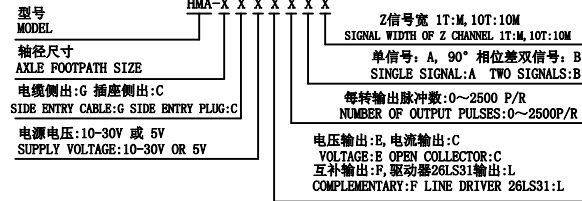
1. 编码器轴与用户轴不要刚性连接, 请使用弹性联接板。  
The encoder shaft is not wanted the rigidity to link by the shaft with user, Please use elasticity to connection the board Socket.
2. 安装时, 请注意编码器允许的轴负载。  
During the installation, Please pay attention to the shaft load that the ware was permitted.
3. 安装时, 连接应保证以下要求:  
During the installation, The following requirement should be pledged in the connection:



#### 质量保证 Quality assurance

在用户遵守保管和使用规则的条件下, 产品自发货日起一年内因质量不良损坏时, 制造商无偿为用户修理或更换。  
If the encoder does not function properly within one year of the delivering date due to its poor quality, it will be repaired or replaced by the producer for free only when customer has strictly followed the regulations for maintenance and operation.

### 型号说明 EXPLANATION OF MODEL



### 输出电路 OUTPUT CIRCUIT

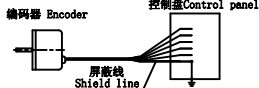
型式记号 MODEL CODE	FL、L	F	E	C
输出形式 OUTPUT SORT	驱动器 LINE DRIVER	互补输出 COMPLEMENTARY	电压输出 VOLTAGE	开路输出 OPEN COLLECTOR
电路 CIRCUIT				

### 电气参数 ELECTRICAL SPECIFICATIONS

输出电路: OUTPUT	驱动器 LINE DRIVER	互补 COMPLEMENTARY	电压/电流 VOLTAGE/OPEN COLLECTOR
电源电压 SUPPLY VOLTAGE:	5V±0.25	DC10-30V	DC10-30V
消耗电流 CURRENT REQUIREMENTS:	150mA	60mA	60mA
响应频率 FREQUENCY RESPONSE:	100kHz	100kHz	100kHz
允许负载 LOAD CURRENT:	20mA	30mA	30mA
信号高电平 OUTPUT VOLTAGE (VH):	2.5V	Vcc*70%	Vcc*70%
信号低电平 OUTPUT VOLTAGE (VL):	0.5V	1V	0.5V
上升/下降时间 RISE/FALL TIME:	100ns	1us	1us

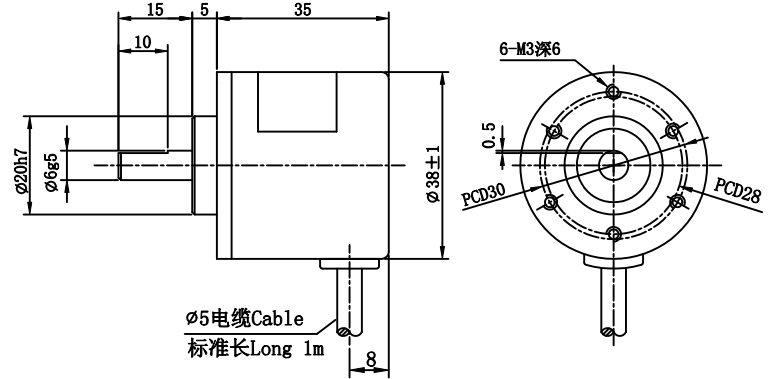
#### 电气方面 THE ELECTRIC ASPECT

1. 请不要将编码器输出线与动力线等绕在一起或同一管道传输, 也不宜放在配线盘附近使用。  
Please not wind encoder output line together or the same pipeline transmits with the motive force thread etc. We should also unsuitably put in the nearby use of distributor.
2. 配线时, 屏蔽线如图配接。  
During the distribution, the shield line is joined in marriage mearing like the picture
3. 误配线会损坏内部电路, 在配线时, 请按配线表或使用说明书接线, 检查无误后开机。  
The mistake distribution can damage the internal, when the distributio, Please pressing wire list or use booklet of directions works a telephone switchboard. The check opens machine after the no mistake

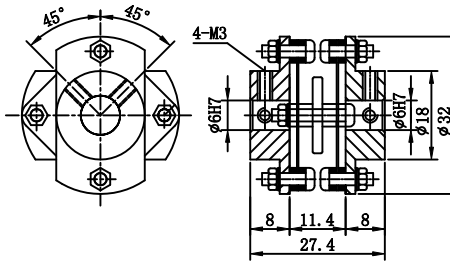


### 外形尺寸 External view

#### 编码器 Encoder



#### 联轴器 Shaft coupling



#### 型号 Model: C-1-6S/6S

最高旋转数 Slew speed	20000r/min
允许扭矩 Slew torsion	0.98N.m
允许安装误差 Slew Instal error	角度 Angle 1.5° 偏心 Partiality 0.2mm
使用温度 Operating temperature	-30°C - +100°C
重量 Weight	0.03Kg