



### 更坚固！更精准！ AV8/10系列

- 坚固的轻合金/不锈钢外壳可选
- 轴径6/10/11/12/14/15mm可选
- 光电和磁式扫描方式可选
- 接口包括Profibus-DP; SSI CANopen以及其他
- 防护等级IP67/IP68+69K可选
- 轴电流保护可选
- 超速开关/凸轮开关/增量编码器组合可选

AV8/10是为频繁振动/强冲击/潮湿/温度剧烈变化等恶劣环境设计重载绝对值编码器。该系统是与重工业的电气维修部门和工厂制造部门的工程师密切合作开发的。轴径设计为:6/10/11/12/14/15mm带键可选, 安装方式为50同步法兰/36夹紧法兰/美式方法兰/欧式B10法兰/底脚等, 该产品安装尺寸与大多数编码器保持兼容, 可以无变更替换。

AV8/10转动系统采用重载深沟球轴承, 其承载力可达轴向250N, 径向350N, 是其他品牌编码器的10-15倍, 经过优化的转动结构使得编码器在高速转动时更可靠, 更稳定。因为采用机电分离+迷宫密封的结构, 该系统防护等级可以达到IP67, 在某些特殊场合我们可以提供P68+69K (M) 的选项。即使在恶劣的重工业条件下, 该系统也不需要额外的保护。在大电机应用中, 您亦可以选择绝缘联轴器来保护编码器不受轴电流损害。

AV8/10采用不会碎裂的高温树脂码盘或磁性码盘, 在保证精度的同时, 亦提高了编码器耐振动耐冲击的性能。AV8/10单圈分辨率最大可选16位, 多圈可选14位, 提供并口/SSI串口以及CANopen/DeviceNet/ModbusEthernet/Profinet/Profibus-DP/Ethernet-IP等众多总线接口, 可选电缆输出或连接器输出。

根据客户的需求, AV8/10可以结合增量编码器, 超速开关(机械/电子), 位置传感器等形成多种组合形式。AV8/10重载绝对值编码器专为恶劣环境而设计, 即使在重工业恶劣条件下, 也不需要额外的保护。今天, 来升级使用AV8/10重载编码器吧, 您将获得最耐久的最可靠的编码器体验!

## 重载轴型绝对值编码器

### 电气参数

#### A. 运行功率

##### 1. 电压&电流

模拟量V输出	12-30VDC;15mA@24V
模拟量I输出	15-30VDC;40mA@24V
CANOpen	10-30VDC;100mA@10V,50mA@24V
DeviceNet	10-30VDC;100mA@10V,50mA@24V
J1939	10-30VDC;100mA@10V,50mA@24V
SSI	5-30VDC;125mA@5V,30mA@24V

2. 总电流 取决于总线形式以及电缆长度

#### B. 输出方式

##### 1. 模拟量

V 输出 0.5-4.5V;0-5V;0.5-9.5V;0-10V

I 输出 0-20mA or 4-20mA

2. SSI 0-2MHz,由模块设定

3. CANOpen, J1939 20K to 1M Baud, node0-127/Default 25K, node32

4. DeviceNet 125K to 500K Baud

C. 计数方向 从编码器背面看, CCW旋转时递增(默认)

D. 每圈分辨率 4096 or 8192(12or13bits)其他分辨率请咨询

E. 最大圈数 4096-32768(12-15bits)

F. 驱动规格 见下表

G. 连接器 参考选型表格连接选项

H. 精度  $\pm 1/2$ LSB(12Bit),  $\pm 2$ LSB(16Bit)

$\pm 0.35$ deg( $\pm 21$ arc-min)

Analog Output:0.15%

BUS OPTIONS								
Electrical Specifications		Analog	CANOpen	DeviceNet	J1939	Profibus	SSI	Units
Input Voltage		12-30V	10-30V	TBD	10-30V	TBD	10-30V	VDC
Cable Drive Capacity		NA	TBD	TBD	TBD	TBD	4000' [1200m]*	feet
Protection	Reverse Voltage	yes	yes	TBD	TBD	TBD	yes	
	Short Circuit	yes	yes	TBD	TBD	TBD	yes	
	Transient	yes	yes	TBD	TBD	TBD	yes	

\* @90k Baud w/24 AWG, 52.5 pF/meter (16 pF/foot)

## 重载轴型绝对值编码器

### 机械参数

A. 转动力矩	60N.cm (20°C)
B. 加速度	5000转/分/秒。最大*
C. 转速	最大5000转/分*
D. 重量	8-10磅[3.5-4.5千克]
E. 振动	20 Gs, 5-2000 Hz(任何方向)
F. 冲击	100 Gs, 任何方向
G. 轴尺寸	Φ6/8/10/11/12/14/15(带键4/5)
H. 轴承载	轴向250N 径向350N
I. 外壳材质	铝合金/不锈钢
J. 轴材质	不锈钢
K. 工作温度	-25...+85°C
L. 储存温度	-40...+100°C
M. 环境湿度	< 90% RH, 无结露
N. 防护等级	IP66/67(DIN40050/IEC 529) IP68+69K (M)可选
O. EMC	EN 61000-6-4, EN 61000-6-2

### 型号代码

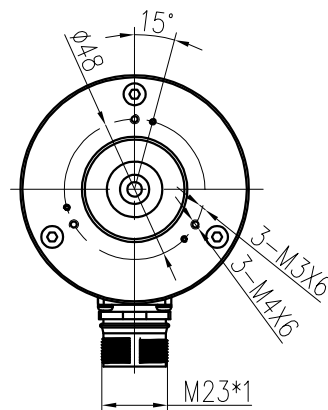
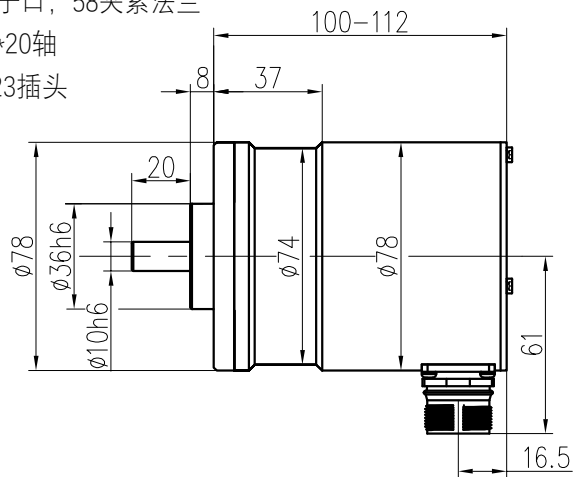
AV8/10 PART NUMBERS AND AVAILABLE OPTIONS										
Model	Shaft Size	Mounting Style	Bus Driver	Turns/PPR(per turn)	Wiring	Coding	Connector	Modifications	Identification	
<b>AV8A</b> <b>AV8M</b> <b>AV8S</b> <b>AV10A</b> <b>AV10M</b> <b>AV10S</b>	<b>B</b> -6mm <b>C</b> -8mm <b>D</b> -10mm <b>P</b> -12mm <b>3</b> -0.375" <b>N</b> -11mm(K) <b>T</b> -14mm(K) <b>R</b> -15mm <b>L</b> -16mm(K) <b>Z</b> -特殊选项, 需咨询	<b>1</b> -58mm 夹紧法兰, 10X20轴, 36子口, <b>3XM3, 3XM4@48mm</b> <b>2</b> -58mm 同步法兰, 6X10轴, 50子口 <b>3XM4@42mm</b> <b>3</b> -50mm 夹紧法兰, 30子口, 3XM3, 4X M4@40mm, 10*20 轴 <b>4</b> -方形法兰68*68, 50子口, 4X5.5 @方形56*56 <b>5</b> -方形法兰66.5*66.5, 31.75子口, 4X5.5 @方形52.4 <b>B</b> -B10 flange <b>F</b> -P+F 31 series Flange <b>D</b> -leine-linde 593 series Flange <b>E</b> -P+F 78 /KOYO <b>TRD</b> -JK series Flange <b>Z</b> -特殊选项, 需咨询	<b>C</b> -CANOpen <b>D</b> -DeviceNet <b>F</b> -CANSafe <b>K</b> -Powerlink <b>L</b> -Parallel <b>M</b> -Modbus Ethernet <b>N</b> -Profinet <b>P</b> -Profibus DP <b>R</b> -Ethernet/IP <b>S</b> -SSI <b>Z</b> -特殊选项, 需咨询	<b>X</b> -0/0-single turn <b>A</b> -16/4 <b>6</b> -65536/16 <b>E</b> -256/8 <b>2</b> -4096/12 <b>3</b> -8192/13 <b>4</b> -16384/14 <b>5</b> -32768/15 <b>Z</b> -特殊选项, 需咨询	<b>2</b> -4096/12 <b>3</b> -8192/13 <b>6</b> -65536/16 <b>A</b> -16/4 (only AV*M) <b>E</b> -256/8 (only AV*M) <b>Z</b> -特殊选项, 需咨询	<b>A</b> -Side <b>E</b> -End	<b>X</b> -00 Depending on the Bus Code <b>1</b> -Binary <b>2</b> -Gray	<b>A</b> -1xM12/5 pin <b>B</b> -2xM12/5 pin <b>C</b> -3xM12 4/5/5 pin* <b>D</b> -2xM12/4 pin <b>E</b> -M12/8 pin <b>F</b> -M23/12 pin <b>G</b> -26pin <b>J</b> -2x cable entry <b>K</b> -3x cable entry <b>M</b> -M23/8pin <b>W</b> -Cable, 1m <b>P</b> -Hating plug <b>Z</b> -特殊选项, 需咨询	<b>000</b> -None <b>9xx</b> --电缆出线长度xx=M, 最长15m <b>6xx</b> -电缆出线xx米带插头电缆出线长度xx=M, 最长15m <b>700</b> -带配套插头 <b>7xx</b> -带配套插头/电缆出线长度xx=M, 最长10m <b>6/7/9xE</b> -轴向外线X米, 最长9m <b>Z</b> -特殊选项, 需咨询	<b>N</b> -无特殊选项 <b>P</b> -IP68+69K (only AV*M/S选项/ssi) <b>Z</b> -特殊选项, 需咨询

\*profinet/profibus C选项插头类型不同, 以总线形式为准, 公司配置标准插头。

# 重载轴型绝对值编码器

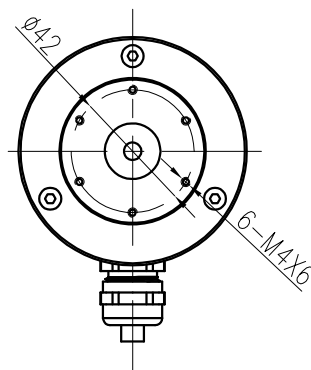
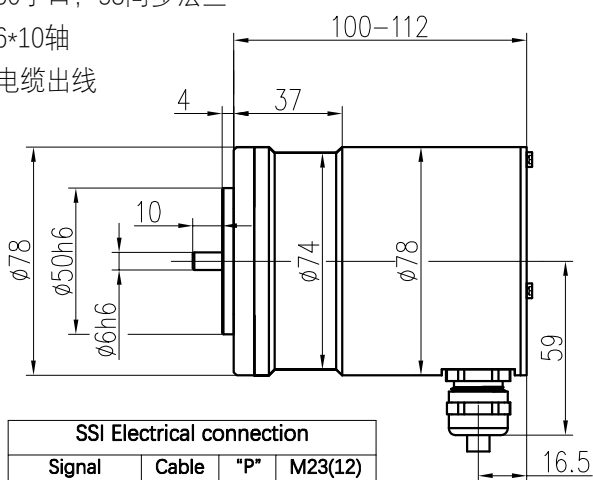
## AV8 外形图

36子口, 58夹紧法兰  
10\*20轴  
M23插头



Connector options:  
F- M23/12 pin  
M- M23/8pin  
for SSI

50子口, 58同步法兰  
6\*10轴  
电缆出线



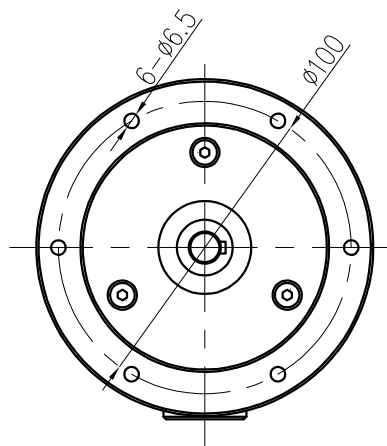
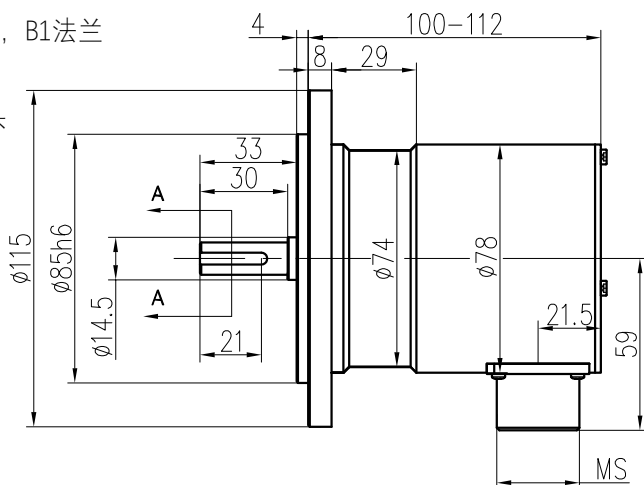
Connector options:  
W- Cable for  
S- SSI  
L- Parallel

SSI Electrical connection			
Signal	Cable	"P"	M23(12)
GND	White	1	12
UB+	Brown	6	11
Clock+	Green	2	2
Clock-	Yellow	7	1
Data+	Gray	3	3
Data-	Pink	8	4
Complement	Red	9	8
Preset	Blue	4	9
Shield	PH	PH	PH

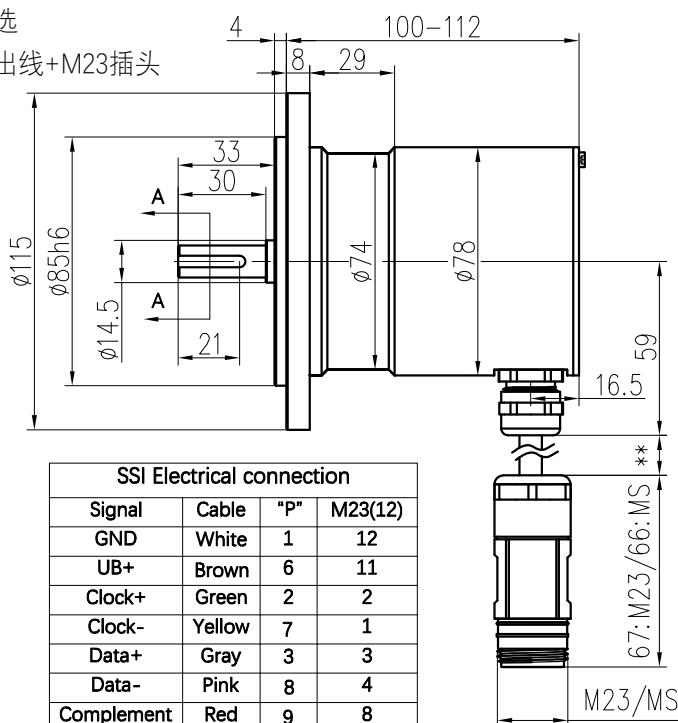
# 重载轴型绝对值编码器

## AV8 外形图

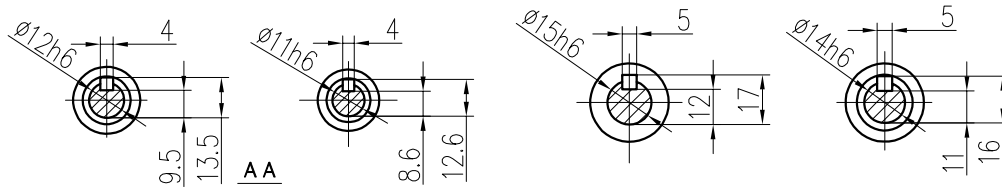
85子口, B1法兰  
轴可选  
MS插头



85子口, B10法兰  
轴可选  
电缆出线+M23插头

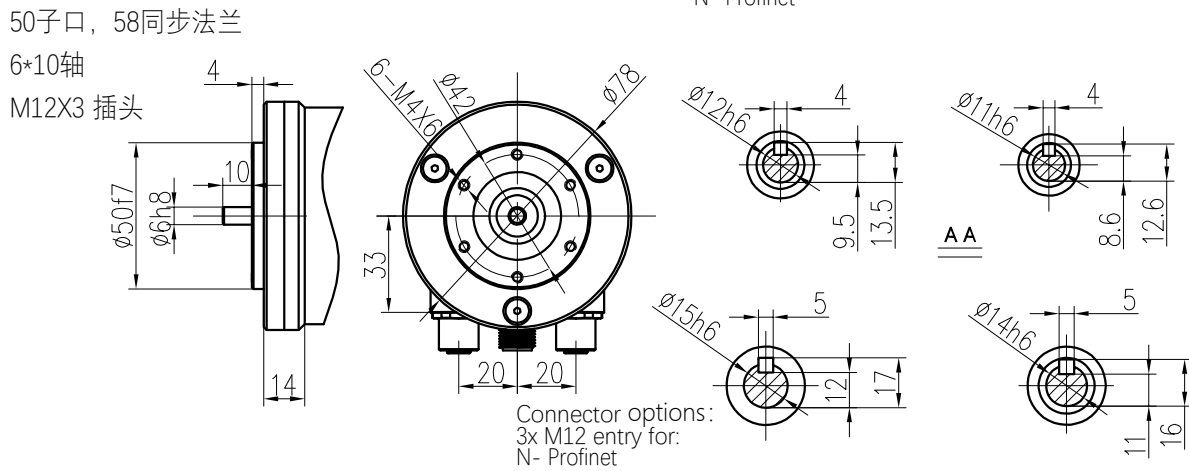
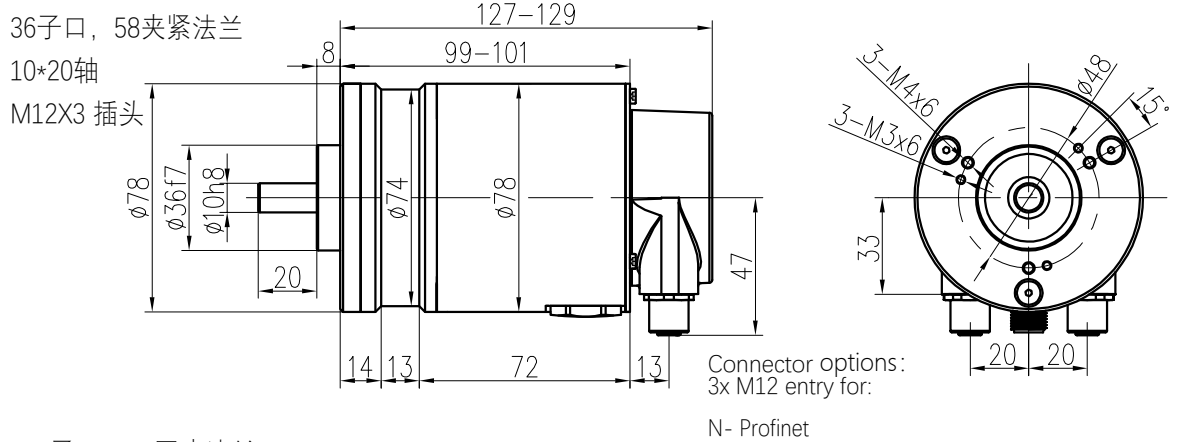


SSI Electrical connection			
Signal	Cable	"P"	M23(12)
GND	White	1	12
UB+	Brown	6	11
Clock+	Green	2	2
Clock-	Yellow	7	1
Data+	Gray	3	3
Data-	Pink	8	4
Complement	Red	9	8
Preset	Blue	4	9
Shield	PH	PH	PH



# 重载轴型绝对值编码器

## AV8 外形图



接线: 3x M12-Profinet

Connection Plan		
SIGNAL	CONNECTOR	PIN NUMBER
Tx+	Connector 1	1
Rx+	Connector 1	2
Tx-	Connector 1	3
Rx-	Connector 1	4
Power	Connector 2	1
Not Connected	Connector 2	2
GND	Connector 2	3
Not Connected	Connector 2	4
Tx+	Connector 3	1
Rx+	Connector 3	2
Tx-	Connector 3	3
Rx-	Connector 3	4

Diagnostic LED		
LED	Color	Description for LED = on
Active1	Yellow	Incoming and outgoing traffic for port 1
Link1*	Green	Link to another Ethernet component for port 1
Active2	Yellow	Incoming and outgoing traffic for port 2
Link2*	Green	Link to another Ethernet component for port 2
Stat1	Green	Status 1, details in the user manual
Stat2	Red	Status 2, details in the user manual

\* Flashes with 2Hz if engineering identification call is activated and link connection is available

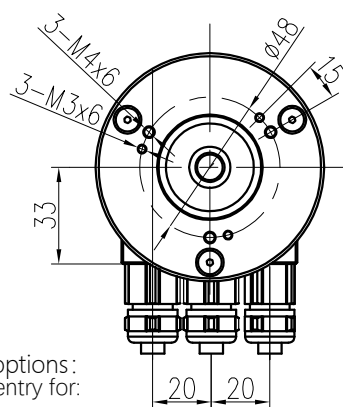
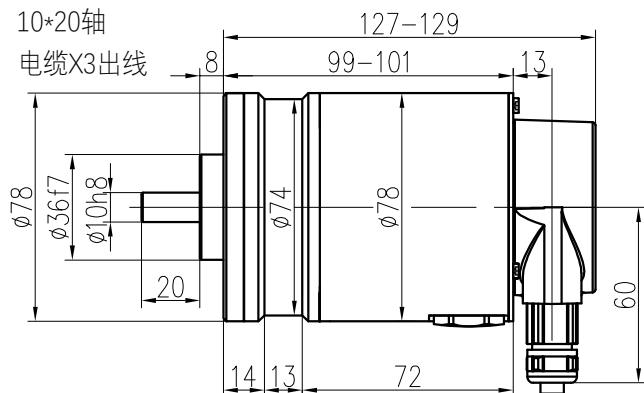
# 重载轴型绝对值编码器

## AV8 外形图

36子口, 58夹紧法兰

10\*20轴

电缆X3出线



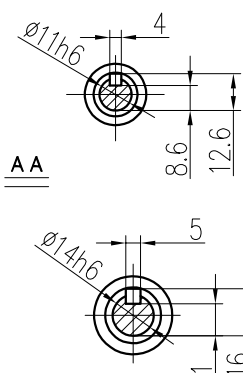
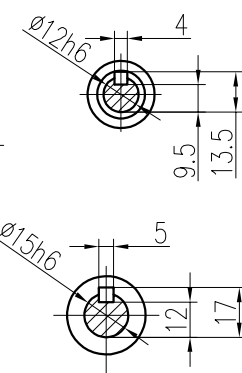
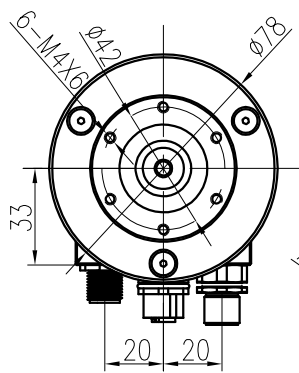
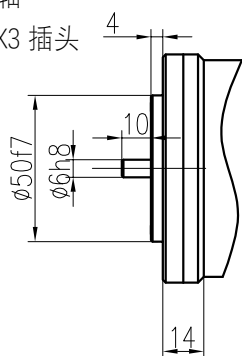
Connector options:  
K- 3x cable entry for:

P- Profibus DP

50子口, 58同步法兰

6\*10轴

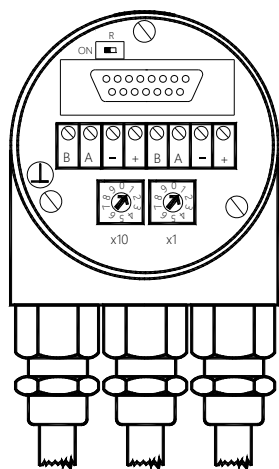
M12X3 插头



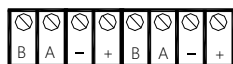
Connector options:  
3x M12 entry for:

P- Profibus DP

接线: 3x 电缆格兰-Profibus-DP

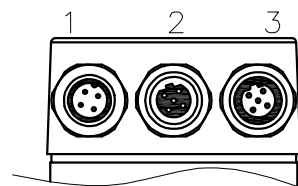


Connecting the data line and the power supply



Clamp	Description
B (Left)	Bus Line B (Bus In)
A (Left)	Bus Line A (Bus In)
-	0 V
+	10 - 30 V
B (Right)	Bus Line B (Bus Out)
A (Right)	Bus Line A (Bus Out)
-	0 V
+	10 - 30 V

接线: 3x M12-Profibus-DP



Power Supply	Connector
Not Connected	Connector 1
GND	Connector 1
Not Connected	Connector 1
Not Connected	Connector 2
Busline A out	Connector 2
Not Connected	Connector 2
Bus line B out	Connector 2
Not Connected	Connector 2
Not Connected	Connector 3
Bus line A in	Connector 3
Not Connected	Connector 3
Bus line B in	Connector 3
Not Connected	Connector 3

Connector-View on Encoder

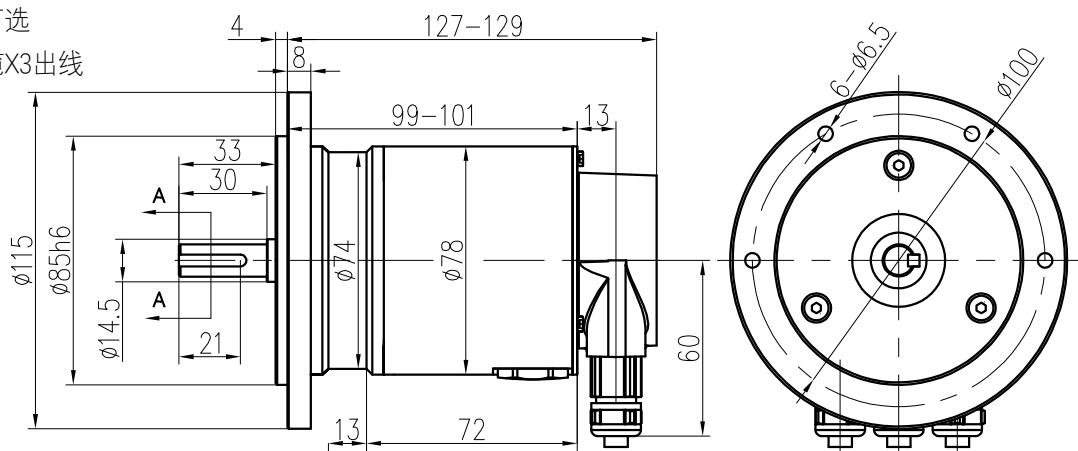
## 重载轴型绝对值编码器

### AV8 外形图

85子口, B10法兰

轴可选

电缆X3出线



Connector options: K-  
3x cable entry for:

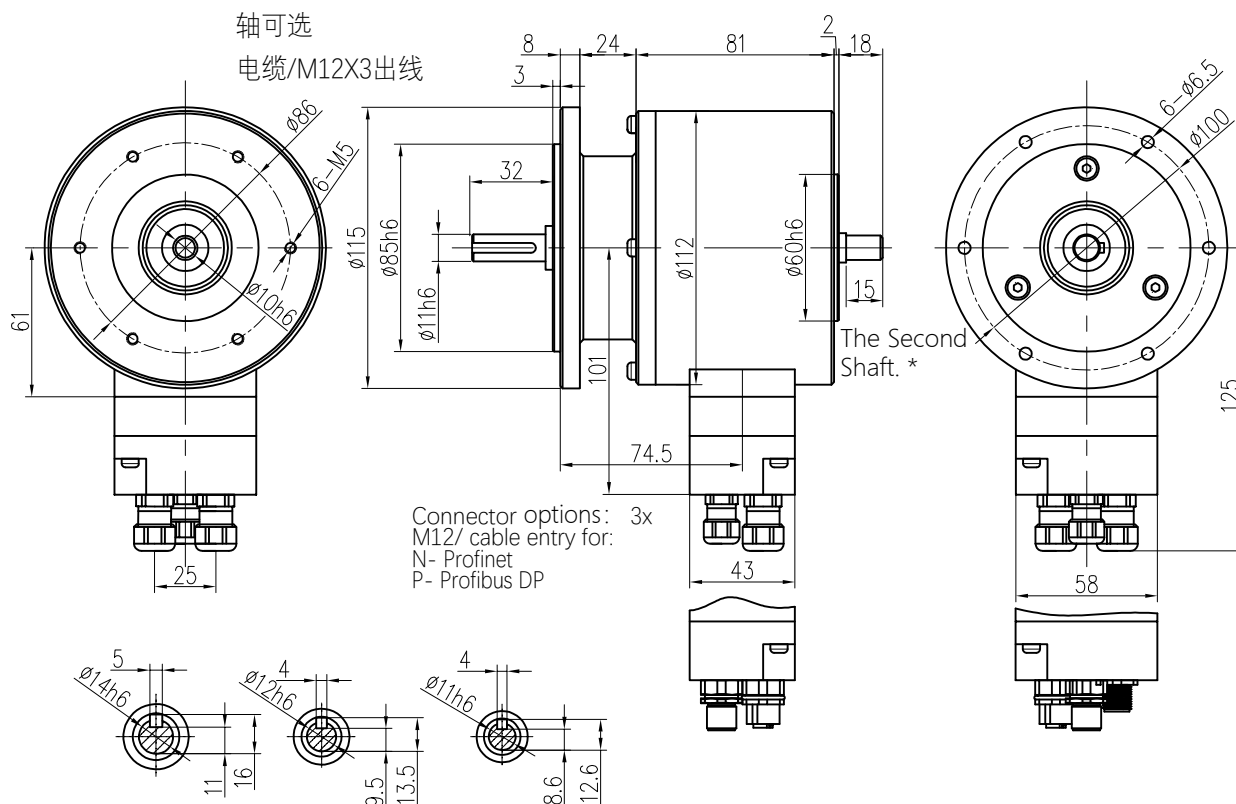
P- Profibus DP

### AV10 外形图

85子口, B10法兰

轴可选

电缆/M12X3出线



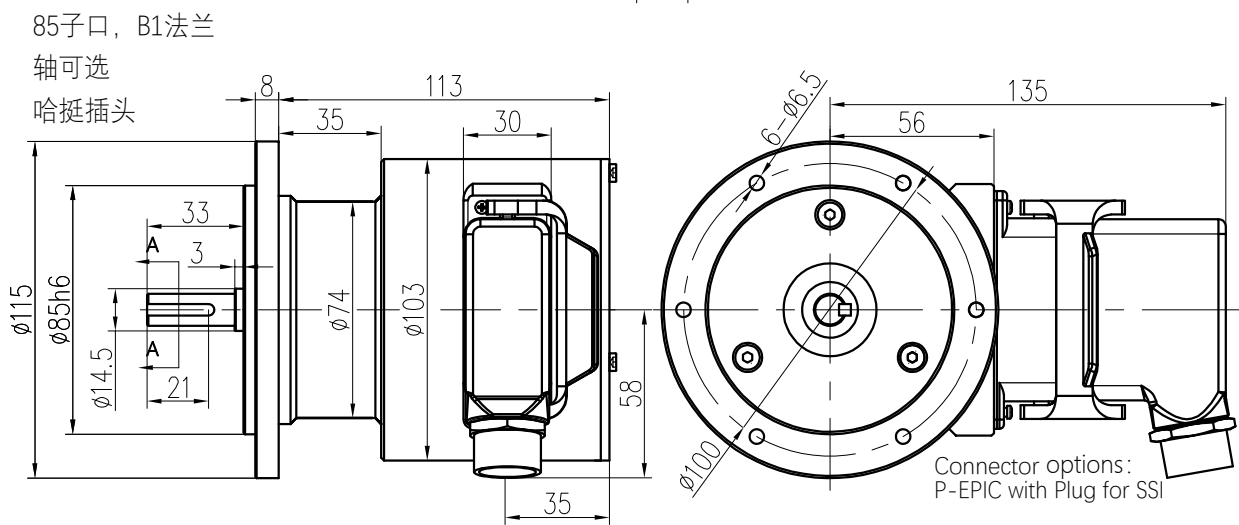
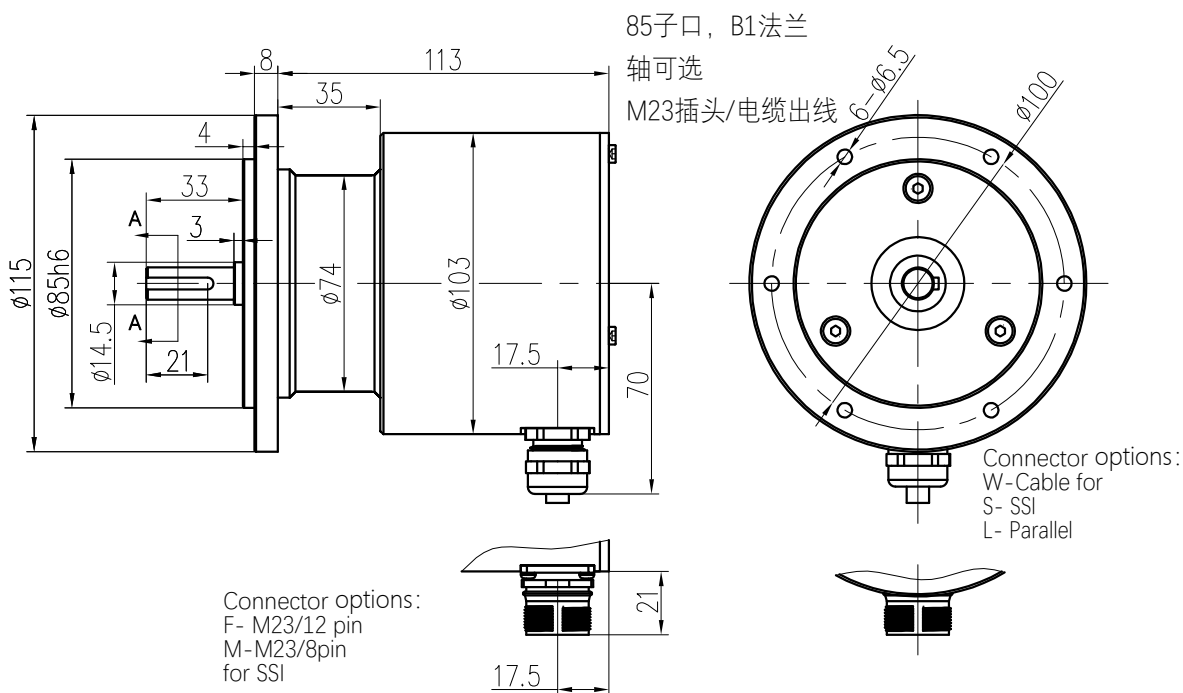
Connector options: 3x  
M12/ cable entry for:  
N- Profinet  
P- Profibus DP

The Second  
Shaft.\*

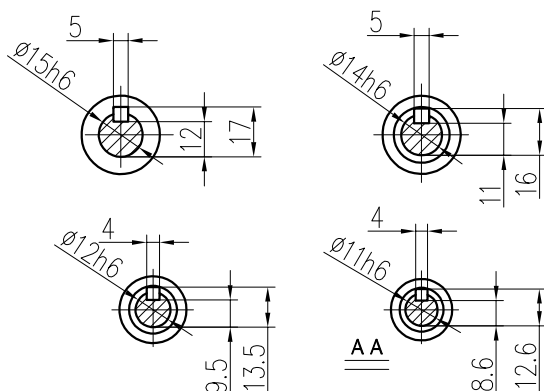


# 重载轴型绝对值编码器

## AV10 外形图

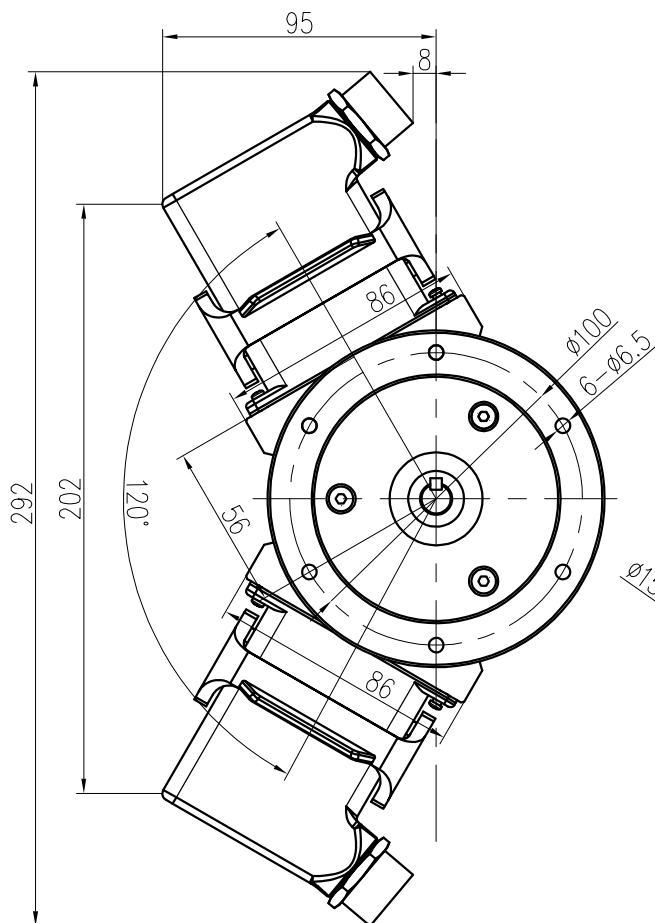


SSI Electrical connection			
Signal	Cable	"P"	M23(12)
GND	White	1	12
UB+	Brown	6	11
Clock+	Green	2	2
Clock-	Yellow	7	1
Data+	Gray	3	3
Data-	Pink	8	4
Complement	Red	9	8
Preset	Blue	4	9
Shield	PH	PH	PH



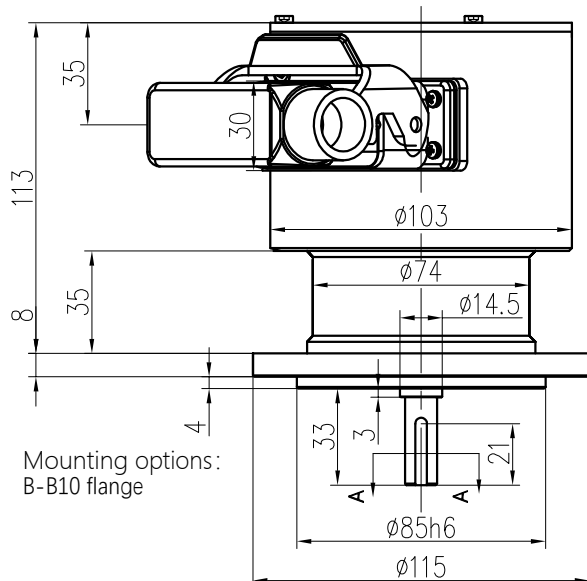
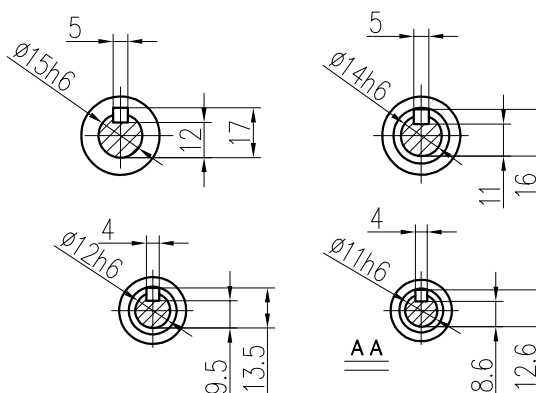
# 重载轴型绝对值编码器

## AV10 外形图



Connector options:  
P-EPIC with Plug for SSI

SSI Electrical connection			
Signal	Cable	"P"	M23(12)
GND	White	1	12
UB+	Brown	6	11
Clock+	Green	2	2
Clock-	Yellow	7	1
Data+	Gray	3	3
Data-	Pink	8	4
Complement	Red	9	8
Preset	Blue	4	9
Shield	PH	PH	PH



Mounting options:  
B-B10 flange

Connector options:  
P-EPIC with Plug for inc

incremental electrical connection			
signal	Cable	M23	P options
GND	White	10	1
UB+	Brown	12	6
A	Green	5	2
B	Gray	8	3
Z	Blue	3	4
A-	Yellow	6	7
B-	Pink	1	8
Z-	Red	4	9
SHIELD	PH	PH	PH

85子口, B1法兰

轴可选

哈挺插头1: SSI

哈挺插头1: 增量HTL/TTL