

# MUJIE 慕杰<sup>®</sup>

YOUR AUTOMATION, YOUR MUJIE!

外形设计简洁、外形小巧便于安装，安装螺纹套管，长度仅25mm，盲区小，适合近距离精细检测



分体式超声波传感器MFCSB系列  
Split ultrasonic sensor MFCSB series

The appearance design is simple and compact, which is easy to install. The threaded sleeve is only 25mm long and has a small blind area, which is suitable for close and fine detection

## 型号说明 Model Explanation

MFCS	B	300	-12	M	-E6	-V15	-□
基本型号Model M-型号代码 Model code M□: 特殊型号定义 Speciall definition	系列 Series B: 圆柱基本型系列 Cylinder basic type series R: 紧凑型系列 Compact series KF: 标准系列, 抗化学腐蚀 Standard series, chemical resistant D: 定制系列 Custom Collection SZ (A/C): 双张检测(根据材料厚度) Double sheet inspection (according to material thickness)	上限检测范围 Upper limit detection range 300 : 300mm 6000:6000mm	外壳及安装尺寸 And installation dimensions of shell 12 : 圆柱形外壳, 直径12mm Cylindrical shell, diameter 12mm 18 : 圆柱形外壳, 直径18mm Cylindrical shell, diameter 18mm 30 : 圆柱形外壳, 直径30mm Cylindrical shell, diameter 30mm U : 方形外壳VariKont(U1,u9) Square housing VariKont(U1,U9) FP : 方形外壳FP ( FP1,FP,.. ) Square shell FP(FP1,FP,..) F42:方形外壳F42 Square casing F42	外壳材质 Material M: 金属 Metal S: 塑料 Plastic	电气输出Electrical output E4/E5:1x5线制, 单开关量npn输出 或 单开关量pnp输出 1x5 wire system, single switching value npn output or single switching value PnP output E4E5 : 2x5线制, 普通双开关量输出,npn+pnp 2x5 wire system, ordinary double switch output, npn+pnp E6/E7: 2x5线制, 双开关量输出npn 或 双开关量输出pnp 2x5 wire system, double switch output npn or double switch output pnp E6E7 : 2x5线制, 双开关量推挽输出 2x5 wire system, double switch push-pull output I : 1x5线制, 1模拟量电流4...20mA输出 1x5 wire system, 1 analog current 4... 20mA output U : 1x5线制, 1模拟量电压0...10V输出 1x5 wire system, 1 analog voltage 0... 10V output IU: 2x5线制, 1模拟量电流4...20mA + 1模拟量电压0...10V 2x5 wire system, 1 analog current 4... 20mA output+ 1 analog voltage 0... 10V AE4 : 2x5线制, 1模拟量电压0...10V或模拟电流4...20mA输出自动识别 +1开关量npn输出 2x5 wire system, 1 analog current 0... 10V output or 1 analog current 4... 20mA output automatic identification+ 1 switching value npn output UE4 : 2x5线制, 1模拟量电压0...10V输出+1开关量npn输出 2x5 wire system, 1 analog voltage 0... 10V output+ 1 switching value npn output IE4 : 2x5线制, 1模拟量电流4...20mA输出+1开关量npn输出 2x5 wire system, 1 analog current 4... 20mA output+ 1 switching value npn output R4 : RS485接口输出 RS485 interface output CA: CAN总线输出 CAN bus output	连接方式 Attended mode V: 电缆 Cable V1 : 插头,4针 m12x1 Plug, 4 pins, m12x1 V3 : 插头,3针 m8x1 Plug, 3 pins, m8x1 V4 : 插头,4针 m8x1 Plug, 4 pins, m8x1 V15: 插头,5针 m12x1 Plug, 5 pins, m12x1	客户定制 Customized informat

## 技术规格 Specification

检测范围 Examination area	20-150mm
盲区 Blind zone	0-20mm
分辨率 Resolution ratio	0.1mm
重复精度 Repetition accuracy	满量程值得±0.15% ± 0.15% of full scale value
精度 Accuracy	±1% (内置温度漂移补偿) (Built in temperature drift compensation)
响应时间 Response time	22ms
开关迟滞 Switch hysteresis	2mm
开关频率 Switching frequency	45Hz
上电延时 Power on delay	< 500ms
工作电压 Working voltage	10-30VDC,反极性保护 Reverse polarity protection
LED红灯 LED red light	无目标物常亮, 学习时无目标闪烁 No target is always on, no target flashes during learning
LED绿灯 LED green light	检测到目标物常亮, 学习时有目标闪烁 It is detected that the target is always on, and the target flashes during learning
过载保护 Overload protection	200mA,红灯绿灯同时闪烁 Red light and green light flash at the same time
负载阻抗 Load impedance	I/0~300 Ohm,U/>1k Ohm
空载电流 No load current	≤30mA
输入类型 Input Type	带同步功能和学习功能 With synchronization function and learning function
材质 Texture of material	铜套镀镍, 塑料配件, 玻璃填充环氧树脂 Copper sleeve nickel plating, plastic accessories, glass filled epoxy resin
防护等级 Degree of protection	Ip67
连接类型 line type	5芯M12连接器 5-core M12 connector
环境温度 Ambient temperature	-25°C~ +70°C ( 248~3434K)
储存温度 Storage temperature	-40°C~ +85°C ( 233~358K)
重量 Weight	125G

编码器/磁栅尺  
Encoder/Magnetic Scale

位移/倾角/计数器  
Displacement /Inclination /Counter

接近/加速度/温度  
Proximity/Acceleration/Temperature

光电/超声波/区域  
Photoelectric/Ultrasonic/Area

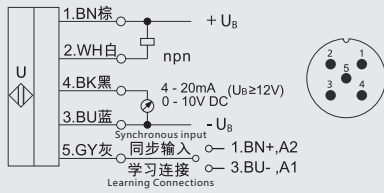
压力/称重  
Pressure / load cell

联轴器/附件  
Couplings/Accessories

## ► 电路输出方式(示例) Example for output circuit

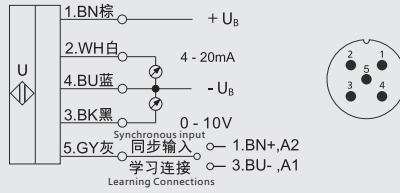
### MFCSB150-12M20-AE4-V15

电压/电流自动识别输出 4-20mA+1npn  
Voltage/current automatic identification output 4-20mA+1npn  
短路保护·可切换递增/递减  
Short circuit protection, switchable increasing/decreasing



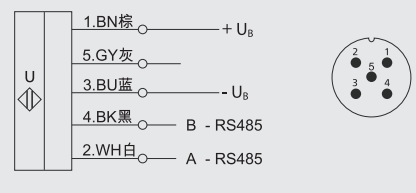
### MFCSB150-12M20-IU-V15

模拟电压 0-10V+模拟电流 4-20mA 双输出  
Analog voltage 0-10V+analog current 4-20mA dual output  
短路保护·可切换递增/递减  
Short circuit protection, switchable increasing/decreasing



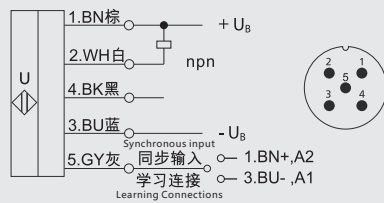
### MCSB150-12M20-R4-V15

Modbus 标准协议  
Modbus standard protocol  
短路保护  
Short circuit protection



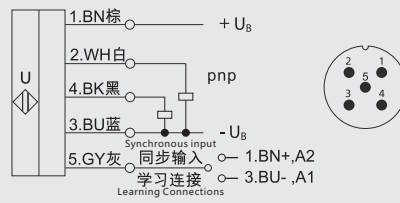
### MFCSB150-12M20-E4-V15

1 npn, I<sub>max</sub>=200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



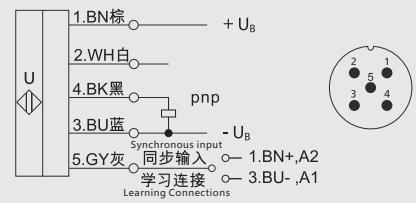
### MFCSB150-12M20-E6-V15

2 npn, I<sub>max</sub>=2×200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



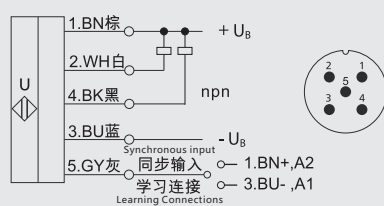
### MFCSB150-12M20-E5-V15

1 pnp, I<sub>max</sub>=200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



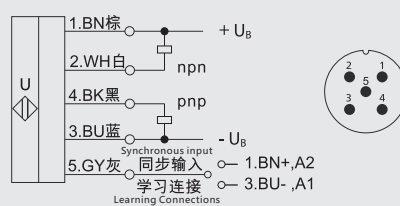
### MFCSB150-12M20-E7-V15

2 pnp, I<sub>max</sub>=2×200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



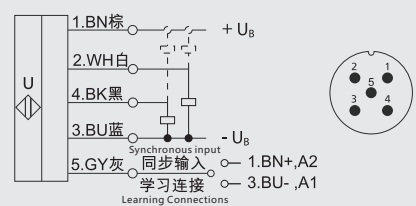
### MFCSB150-12M20-E4E5-V15

1pnp+1nnp, I<sub>max</sub>=2×200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



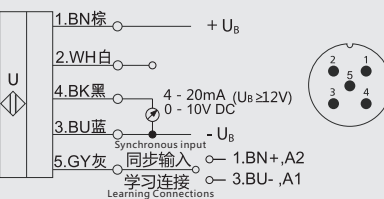
### MFCSB150-12M20-E6E7-V15

2 Push pull, I<sub>max</sub>=2×200mA  
常开/常闭可调, 短路保护  
Normally open/closed adjustable, short circuit protection



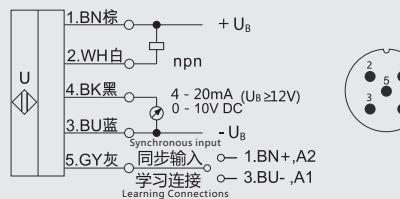
### MFCSB150-12M20-U-V15

MFCSB150-12M20-LV15  
U: 电压输出 0-10V (UB≥12V)  
Voltage output 0-10V (UB ≥ 12V)  
I: 电流输出 4-20mA  
Current output 4-20mA  
短路保护 可切换递增/递减  
Short circuit protection, switchable increasing/decreasing



### MFCSB150-12M20-UE4-V15

MFCSB150-12M20-IE4-V15  
UE4: 电压输出 0-10V (UB≥12V)+1nnp  
Voltage output 0-10V (UB ≥ 12V)+1nnp  
IE4: 电流输出 4-20mA+1nnp  
Current output 4-20mA+1nnp  
短路保护 可切换递增/递减  
Short circuit protection, switchable increasing/decreasing



## ► 安装尺寸图 Mounting Dimensions(单位Unit:mm)

