

MUJIE 慕杰®

YOUR AUTOMATION, YOUR MUJIE!

全金属M30安装螺纹套管，恶劣环境中使用，数字量RS485,MODBUS标准协议通讯



标准超声波传感器MCSB系列
Standard ultrasonic sensor mcsb series

All metal M30 installation threaded sleeve, used in harsh environments, digital quantity RS485, MODBUS standard protocol communication

型号说明 Model Explanation

MCS	B	350	-30	M	-E6	-V15	-□
基本型号 Model M: 型号代码 Model code M□: 特殊型号定义 Special definition	系列 Series B: 圆柱基体系列 Cylindrical basic series C: 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 series 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 350: 30-350 500: 40-500 1000: 60-1000 2000: 180-2000 4000: 200-4000 6000: 350-6000	外壳及安装尺寸 Housing and installation dimensions 12: 圆柱形外壳, 直径12mm Cylindrical shell, 12mm diameter 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) FP: 方形外壳 FP (FP1, FP.) Square housing varikont (U1, u9) F42: 方形外壳 F42 Square housing F42	外壳材质 Shell material: M: 金属 Metal S: 塑料 Plastic	电气输出 Electrical output E4/E5: 单开关量 npn 输出或单开关量 pnp 输出 Single switch NPN output or single switch PNP output E4E5: 普通双开关量输出 npn+pnp Normal double on-off output (NPN + PNP) E6/E7: 双开关量输出 npn 或双开关量输出 pnp Double on-off output (NPN) or double on-off output (PNP) E6E7: 双开关量推接输出: 1 模拟量电流 4...20mA 输出 Double on-off push-pull output I: 1 analog current 4... 20mA output V: 1 模拟量电压 0...10V 输出 1 analog voltage 0... 10V output IV: 1 模拟量电流 4...20mA + 1 模拟量电压 0...10V 1 analog current 4... 20mA + 1 analog voltage 0... 10V IE4: 1 模拟量电流 4...20mA 输出 + 1 开关量 npn 输出 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 Connection mode: V: 电缆 Cable V1: 插头, 4pin 12x1 Plug, 4-pin 12x1 V3: 插接头, 3pin 8x1 Finger plug, 3-pin 8x1 V4: 插头, 4pin 8x1 Plug, 4-pin 8x1 V15: 插头, 5pin 12x1 Plug, 5-pin 12x1	客户定制 Customized informat

技术规格 Specification

检测范围 Detection range:	30-350mm	40-500mm	60-1000mm
盲区 Blind area	0-30mm	0-40mm	0-60mm
分辨率 Resolving power	0.17mm	0.17mm	0.5mm
重复精度 Repeatability	0.3% 满量程值 Full scale value	0.3% 满量程值 Full scale value	0.3% 满量程值 Full scale value
精度 Accuracy	0.05%/°C (内置温度补偿) Built in temperature compensation	0.05%/°C (内置温度补偿) Built in temperature compensation	0.05%/°C (内置温度补偿) Built in temperature compensation
响应时间 Response time	50ms	50ms	100ms
开关频率 Switching frequency	约 40KHz	约 200KHz	约 200KHz
工作电压 Working voltage	12~30VDC, 10%Vpp	12~30VDC, 10%Vpp	12~30VDC, 10%Vpp
LED 红灯 Red light	常亮, 未检测到目标闪烁, 学习状态下未检测到目标 Normally on, no target detected flickers, no target detected in learning state	常亮, 未检测到目标闪烁, 学习状态下未检测到目标 Normally on, no target detected flickers, no target detected in learning state	学习状态下未检测到目标, 常亮 the target is not detected in the learning state, and it is always on
LED 蓝灯 Blue lamp			学习状态下未检测到目标, 闪烁 no target is detected in the learning state, flashing
LED 黄灯 Yellow light	常亮, 检测到目标在 A1-A2 范围内闪烁, 学习状态下检测到目标 It is always on, and it is detected that the target flickers in the range a1-a2, Target detected in learning state	常亮, 检测到目标在 A1-A2 范围内闪烁, 学习状态下检测到目标 It is always on, and it is detected that the target flickers in the range a1-a2, Target detected in learning state	正常工作模式下, 开关状态 under normal working mode, switch status
LED 绿灯 Green light			电源指示灯, 常亮 Power indicator, always on
过载保护 Overload protection	≤300Ω	≤300Ω	≤300Ω
空载电流 No load current	≤25mA	≤25mA	≤25mA
材质 texture of material	金属, 塑料 Metal, plastic	金属, 塑料 Metal, plastic	金属, 塑料 Metal, plastic
保护等级 Protection level	IP67	IP67	IP67
环境温度 ambient temperature	-25°C ~ +70°C	-25°C ~ +70°C	-25°C ~ +70°C
储存温度 Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
检测范围 Detection range:	180-2000mm	200-4000mm	350-6000mm
盲区 Blind area	0-180mm	0-200mm	0-350mm
分辨率 Resolving power	0.17mm	3mm	0.17-2.5mm
重复精度 Repeatability	0.3% 满量程值 Full scale value	2% 满量程值 Full scale value	0.0.15% 满量程值 Full scale value
精度 Accuracy	0.05%/°C (内置温度补偿) Built in temperature compensation	0.05%/°C (内置温度补偿) Built in temperature compensation	1%/°C (内置温度补偿) Built in temperature compensation
响应时间 Response time	100ms	300ms	232ms
开关频率 Switching frequency	约 112KHz	约 75KHz	约 40KHz
工作电压 Working voltage	15~30VDC, 10%Vpp	12~30VDC, 10%Vpp	12~30VDC, 10%Vpp
LED 红灯 Red light	学习状态下未检测到目标, 常亮 the target is not detected in the learning state, and it is always on	学习状态下未检测到目标, 常亮 the target is not detected in the learning state, and it is always on	学习状态下未检测到目标, 常亮 the target is not detected in the learning state, and it is always on
LED 蓝灯 Blue lamp	学习状态下未检测到目标, 闪烁 no target is detected in the learning state, flashing	学习状态下未检测到目标, 闪烁 no target is detected in the learning state, flashing	学习状态下未检测到目标, 闪烁 no target is detected in the learning state, flashing
LED 黄灯 Yellow light	正常工作模式下, 开关状态 under normal working mode, switch status	正常工作模式下, 开关状态 under normal working mode, switch status	正常工作模式下, 开关状态 under normal working mode, switch status
LED 绿灯 Green light	电源指示灯, 常亮 Power indicator, always on	电源指示灯, 常亮 Power indicator, always on	电源指示灯, 常亮 Power indicator, always on
过载保护 Overload protection	≤1kΩ	≤300Ω	≤300
空载电流 No load current	≤25mA	≤25mA	≤30mA
材质 texture of material	金属, 塑料 Metal, plastic	金属, 塑料 Metal, plastic	金属, 塑料 Metal, plastic
保护等级 Protection level	IP67	IP67	IP67
环境温度 ambient temperature	-25°C ~ +70°C	-25°C ~ +70°C	-25°C ~ +70°C
储存温度 Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C

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

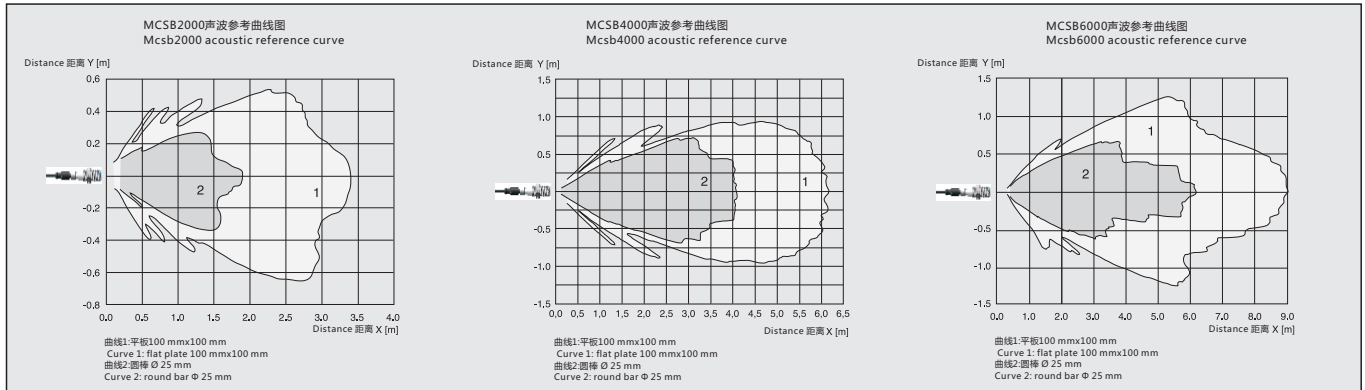
压力/称重
Pressure / load cell

联轴器/附件
Couplings/Accessories

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

<p>E4,E5,E4E5开关量输出方式 E4,E5,E4E5Switching output mode</p> <p>5种输出方式 5 output modes</p> <ol style="list-style-type: none"> 窗口模式1 Window mode 1 常开 A1 < A2: Normally open 窗口模式2 Window mode 2 常闭 A2 < A1: Normally closed 单开关点模式1 Single switch point mode 1 常开 A1 > ∞: Normally open 单开关点模式2 Single switch point mode 2 常闭 A2 > ∞: Normally closed A1 > ∞, A2 > ∞: 目标物存在检测; Target presence detection; 检测到目标物: 开关闭合; 未检测到目标: 开关打开 Target detected: switch closed; target not detected: switch open 	<p>E6,E7E6E7开关量输出方式 E6,E7E6E7Switching output mode</p> <p>3种输出方式 3 output modes</p> <ol style="list-style-type: none"> 开关点A1 Switch point A1 开关输出1 Switch output 1 开关输出2 Switch output 2 开关点A1 Switch point A1 开关点A2 Switch point A2 开关输出2 Switch output 2 开关输出1 Switch output 1 开关点A1 > ∞: 开关输出1: 检测物体存在 Switch point A1 > ∞: switch output 1: detect the presence of objects 开关点A2 > ∞: 开关输出2: 检测物体存在 Switch point A2 > ∞: switch output 2: detect the presence of objects 开关点A1&A2 > ∞: 双输出: 检测物体存在 Switching points A1 & A2 > ∞: dual output; Detect object presence 	<p>模拟量输出方式 Analog output mode</p> <p>上升模式 Ascending mode A1-A2: A1-A2: A2-A1: A2-A1:</p> <p>下降模式 Lift down mode A1-A2: A2-A1: A1-A2: A2-A1:</p>	<p>模拟量+ NPN开关量输出方式 Analog + NPN switching output mode</p> <p>输出方式 Output mode:</p> <p>上升模式 Ascending mode A1-A2: A1-A2: A2-A1: A2-A1:</p> <p>下降模式 Lift down mode A2-A1: A2-A1: A1-A2: A1-A2:</p> <p>窗口模式1, 常开 Window mode 1, Normally open A1-A2: A1-A2: A2-A1: A2-A1:</p> <p>窗口模式2, 常闭 Window mode 1, Normally closed A2-A1: A2-A1: A1-A2: A1-A2:</p>
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▶ 参考曲线图(示例) Reference graph (example)



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

<p>型号 Model MCSB2000-30M-E4-V15</p> <p>输出 Output 1 npn, Imax=2×200mA 常开/常闭可调, 短路保护 Normally open / normally closed adjustable, short circuit protection</p>	<p>型号 Model MCSB4000-30M-E4-V15</p> <p>输出 Output 1 npn, Imax=2×200mA 常开/常闭可调, 短路保护 Normally open / normally closed adjustable, short circuit protection</p>	<p>型号 Model MCSB6000-30M-E4-V15</p> <p>输出 Output 1 npn, Imax=2×200mA 常开/常闭可调, 短路保护 Normally open / normally closed adjustable, short circuit protection</p>	<p>型号 Model MCSB2000-30M-R4-V15</p> <p>输出 Output RS485 Modbus 标准协议 Modbus standard protocol</p>	<p>型号 Model MCSB4000-30M-R4-V15</p> <p>输出 Output RS485 Modbus 标准协议 Modbus standard protocol</p>	<p>型号 Model MCSB6000-30M-R4-V15</p> <p>输出 Output RS485 Modbus 标准协议 Modbus standard protocol</p>
<p>型号 Model MCSB2000-30M-IV-V15</p> <p>输出 Output 1 电压输出 0-10V+ 1 电流输出 4-20mA 1 voltage output: 0-10V+ current output: 4-20mA 短路保护, 可切换递增/递减 Short circuit protection, switchable increment / decrement</p>	<p>型号 Model MCSB4000-30M-IV-V15</p> <p>输出 Output 1 电压输出 0-10V+ 1 电流输出 4-20mA 1 voltage output: 0-10V+ current output: 4-20mA 短路保护, 可切换递增/递减 Short circuit protection, switchable increment / decrement</p>	<p>型号 Model MCSB6000-30M-IV-V15</p> <p>输出 Output 1 电压输出 0-10V+ 1 电流输出 4-20mA 1 voltage output: 0-10V+ current output: 4-20mA 短路保护, 可切换递增/递减 Short circuit protection, switchable increment / decrement</p>	<p>型号 Model MCSB2000-30M-VV-V15</p> <p>输出 Output MCSB2000-30M-IV-V15 V: 电压输出 0-10V Voltage output: 0-10V 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 increment / decrement</p>	<p>型号 Model MCSB4000-30M-VV-V15</p> <p>输出 Output MCSB4000-30M-IV-V15 V: 电压输出 0-10V Voltage output: 0-10V 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 increment / decrement</p>	<p>型号 Model MCSB6000-30M-VV-V15</p> <p>输出 Output MCSB6000-30M-IV-V15 V: 电压输出 0-10V Voltage output: 0-10V 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 increment / decrement</p>

▶ 安装尺寸图 (示例) Installation dimension drawing (example) (单位Unit:mm)

