

List of Critical Spare Parts and Wearing Parts for 4.0 Latent AMR													
Material category Loại linh kiện	Material number Mã linh kiện	Material description Mô tả	Model	Brand	Oty. per unit Số lượng/ mỗi mẫu AMR	Service life Tuổi thọ	Remarks Ghi chú	Compatible models Đồng sản phẩm tương thích	Spare parts ratio Tỷ lệ thay thế	Supply lead time (within warranty period) Thời gian cung ứng	Critical components Quan trọng	Spare parts Phụ tùng	Wear parts Linh kiện dễ hao mòn
Battery	1.2.56.03.R0004	Lithium ion battery -24Ah-48V-57.6Vchr-18Aler-5Aldr CAN communication - charging and discharging port - lithium iron phosphate battery - assembly - CE version - non ROHS Chinese Huray 3000 Series 1.3 million black and white AGV customized area array camera (facing up) A3138MG006-28 -6-32	customized	LISHEN	1	3years	Lithium Iron Phosphate	universal version	5%	2 weeks	✓	✓	
Camera	1.0.01.36.R0014	Chinese Huray 3000 Series 1.3 million black and white AGV customized area array camera (facing up) A3138MG006-28 -6-32	A3138MG006-28	iRAYPLE	1	3 years	Up Camera	C150 series	5%	2 weeks	✓	✓	
	1.0.01.36.R0013	Chinese Huray 3000 Series 1.3 million black and white AGV customized area array camera (facing down) A3138MG006-37 -6-337	A3138MG006-37	iRAYPLE	1	3 years	Down Camera	C150 series	5%	2 weeks	✓	✓	
	1.2.52.06.10440-000	DC Servo Motor-F100-800W-48V-500-non ROHS	customized	CZYK	2	5years	Moving Motor	universal version	5%	2 weeks	✓	✓	
Motor and Reduction Gear Động cơ và bộ giảm tốc	1.2.52.10.10003-000	Reducer-F123-K15-non ROHS	customized	NEWSTART	2	3years	Moving Reducer	C060 series	5%	2 weeks	✓	✓	
	1.2.52.10.R0002-000	Reducer-F123-K20-non ROHS	customized	NEWSTART	2	3years	Moving Reducer	C100 series	5%	2 weeks	✓	✓	
	1.2.52.06.R0036-000	Integrated Motor-Reducer-Box Type-F60-K20-500-400W-48-non ROHS	customized	CZYK	2	5years	Rotation Reducer	universal version	5%	2 weeks	✓	✓	
	1.2.52.06.R0024-000	4.0 Project Lifting Motor-138-non ROHS	customized	Kinavo	1	3years	Lifting Motor	universal version	5%	2 weeks	✓	✓	
Laser	1.2.52.10.R0022-000	4.0 Lifting Reducer-K230-230-non ROHS	customized	BOLIN	1	3years	Lifting Reducer	universal version	5%	2 weeks	✓	✓	
	1.2.24.03.R0007-R002	Laser-0.5m-25m-905nm-270°-0.25°-15Hz-430nm-50°±7.2° Smm-9-28V-IP66-25°C-50°C-including pre-installing Scanning Type Laser Distance Measurement Software V1.0-718mini-Side Lead-Out	WLR-718mini	VANJEE	1	3years	Obstacle Avoidance Laser	universal version	5%	2 weeks	✓	✓	
	1.2.24.03.R0005-R001	Laser-0.05m-25m-905nm-20mm-270°-IP66	WLR-716	VANJEE	1	3years	Navigation Laser	universal version	5%	2 weeks	✓	✓	
Control box Bộ điều khiển	1.1.03.36.R0035	4.0 Latent ARM Electric Control Box Components	customized	iRAYPLE	1	3years	Control Box	universal version	5%	2 weeks	✓	✓	
Driver	1.1.03.36.R0115	4.0 Latent ARM 1.5KW Rotating Driver Components(Mold Opening)	customized	iRAYPLE	1	3years	Driver	universal version	5%	2 weeks	✓	✓	
	1.1.03.36.R0114	4.0 Latent ARM 1.5KW Lifting Driver Components(Mold Opening)	customized	iRAYPLE	1	3years	Driver	universal version	5%	2 weeks	✓	✓	
	1.1.03.36.R0113	4.0 Latent ARM 1.5KW Moving Driver(right) Components(Mold Opening)	customized	iRAYPLE	1	3years	Driver	universal version	5%	2 weeks	✓	✓	
	1.1.03.36.R0112	4.0 Latent ARM 1.5KW Moving Driver(left) Components(Mold Opening)	customized	iRAYPLE	1	3years	Driver	universal version	5%	2 weeks	✓	✓	
Wheel Bánh xe	1.2.49.08.R0179-000	JAN031-00-Caster-Traceless polyurethane-D75-H109-E30-R63-450kg-(SD , 93A , Orange)	customized	STELLANA	4	1years	Caster	universal version	5%	2 weeks	✓	✓	✓
Caster for Solar Industry Bánh xoay điều hướng	1.2.49.08.R0147-000	JAN015-00-Rubber coated wheel-PU-D160-B50(Orange)-D160-B50	customized	STELLANA	2	1years	Driving Wheel	universal version	5%	2 weeks	✓	✓	✓
	1.2.49.08.R0181-000	JAN031-00-Caster-Traceless Polyurethane-D75-H109-E30-R63-200kg-(SD , 75A , Orange)	customized	STELLANA	4	1years	Caster	universal version	5%	2 weeks	✓	✓	✓
Display Screen	1.1.03.36.R0039	4.0 Latent ARM Display Screen Components(Mold Opening) UL Authentication	customized	iRAYPLE	1	5years	Display Screen	universal version	5%	2 weeks	✓	✓	
Sensor	1.2.24.03.R0008-R002	3D Camera-0.3-8m-940nm-accuracy=1mm@60cm-iHawkP100Q Power USB-polarized-isolated-85.2x35.35x21.95mm	Hawk100Q	Berxel	1	3years	TOF	universal version	5%	2 weeks	✓	✓	
Speaker Thanh âm cảm biến toản (Cao su)	1.2.11.02.10114-R002	Speaker-SR-30W-130Hz-Moving Coil-150mm cable length-79.79x43.5mm-(20-60 °C-SM-2P)(JNDA)	8R-30W	JANLITAI	1	3years	Speaker	universal version	5%	2 weeks		✓	
	1.2.52.99.10004-R000	Brake-Arc edge-620mm inner width-191.5mm inner depth-mm ROHS	customized	WOMEINUO	2	2years	Safety Edge	universal version	5%	2 weeks	✓	✓	✓
Switch	1.2.42.20.R0187-000	JAN022-00-4.0 Latent AMR edge plastic plug-KM	customized	LEPIN	1	1years	Safety Edge	universal version	5%	2 weeks		✓	
	1.2.15.01.R0001-R001	Button Switch-3A-220V AC-silvery-Metal button with electrostatic insulation-12V Bi-directional LED red light-INO INC-steel discod-conector SM-4P (80mm cable length)-Ø19mm Installation aperture	3A-220VAC-silvery-metal	SIEMENS	1	None	Power Button	universal version	5%	2 weeks	✓	✓	✓
	1.2.15.01.R0002-R001	Button Switch-3A-220V AC-silvery-Electrostatic insulating metal button-12V green circular indicator light-INO INC-steel discod-conector SM-4P (80mm cable length)-installation apertureØ19mm	3A-220VAC-silvery-metal-12V green circular indicator light	SIEMENS	2	None	Confirm Button	universal version	5%	2 weeks	✓	✓	✓
	1.2.15.01.R0003-R001	Button Switch-3A-220V AC-silvery-Electrostatic insulating metal-12V yellow circular indicator light-INO INC-steel discod-conector SM-4P (80mm cable length)-installation apertureØ19mm	3A-220VAC-silvery-metal-12V yellow circular indicator light	SIEMENS	2	None	Maintainence Button	universal version	5%	2 weeks	✓	✓	✓
	1.2.15.99.10050	Button Switch-1A-20V DC-emergency stop-2NC-IP65-Wiring method: Welding terminal type-Red mushroom head rounded shell/with arrow markings-self lock-With two reset methods: pull-out and rotation-cable and connectors(SM-4R)-Installation hole diameter Ø16mm-Button diameter Ø30mm-non ROHS	A-30VDC-emergency stop-2NC-IP65-Wiring method: Welding terminal type-Red mushroom head rounded shell/with arrow markings-self lock-With two reset methods: pull-out and rotation-cable and connectors(SM-4R)-Installation hole diameter Ø16mm-Button diameter Ø30mm-non ROHS	IDEC	2	None	Emergency Stop	universal version	5%	2 weeks	✓	✓	✓
Circuit Board	1.2.40.36.11863-001	IC-AGV-CUSTOM1-LED_V1.00_94_026	customized	iRAYPLE	2	5years	Light Board	universal version	5%	2 weeks	✓	✓	
	1.2.40.36.11640-002	ROBOT_LANSWITCH BOARD_V1.01_59_748	customized	iRAYPLE	1	5years	Switchboard	universal version	5%	2 weeks	✓	✓	
	1.2.40.36.11701-001	ROBOT LED ICOM BOARD_V1.00_35_693	customized	iRAYPLE	1	5years	Light Board	universal version	5%	2 weeks	✓	✓	
	1.2.40.36.R0017-001	ROBOT_CE_CONTROL_BOARD_V1.01_97_013	customized	iRAYPLE	1	5years	Moving Control Board	universal version	5%	2 weeks	✓	✓	
	1.1.01.36.R0521	robot io board_agv4 v1.07_97_215	customized	iRAYPLE	1	5years	IO Board	universal version	5%	2 weeks	✓	✓	
Shell Khung vỏ	1.2.40.36.R0039-001	ROBOT_LCD_SINCH_V2.01_97_034	customized	iRAYPLE	1	5years	Display Board	universal version	5%	2 weeks	✓	✓	
	1.2.40.36.R0016-001	Robot_Main_Control_E3950_Board_V201_97_012	customized	iRAYPLE	1	5years	Main Control Board	universal version	5%	2 weeks	✓	✓	
	1.2.42.20.R0138-000-R006	JAN031-00-4.0 Latent AMR Elevated plastic rear shell components-KM-JKcustomized-RAL9003-DH708WF0	customized	iRAYPLE	1	None	Front Shell	universal version	5%	2 weeks		✓	✓
Accessories Phụ kiện	1.2.42.20.R0198-000-R001	JAN031-00-4.0 Latent AMR Elevated plastic rear shell components-Berxel TOF-KM-JKcustomized-RAL9003-DH708WF	customized	iRAYPLE	1	None	Rear Shell	universal version	5%	2 weeks		✓	
	1.2.42.20.R0141-000-R001	JAN031-00-4.0 Latent AMR Elevated front laser small cover plate-ROJIN_Hengtong-ROJIN-AI9003-DH708WF0	customized	iRAYPLE	1	None	Laser Cover	laser	5%	2 weeks		✓	
	1.2.42.20.R0143-000-R002	JAN031-00-4.0 Latent AMR Elevated rear laser small cover plate-ROJIN_Hengtong-ROJIN-AI9003-DH708WF0	customized	iRAYPLE	1	None	Laser Cover	laser	5%	2 weeks		✓	
	1.2.54.14.R0006-000	M8 x 19 internal hexagonal cylindrical head flat tail machine tooth screws-Galvanized nickel alloy black-TSL G	customized	HAIGE	8	None	Caster Screw	universal version	5%	2 weeks			
	1.2.24.05.R0005	Laser diode-80-90mW-45°-5-L2V-red laser CP-M-Y9901D-Φ15x3.3mm-With M10 nut and left sheet metal-JINDA SM-2R	customized	UPHOTON	1	None	Visual Width Lamp	universal version	5%	2 weeks			✓
	1.2.24.05.R0006	Laser diode-80-90mW-45°-5-L2V-red laser CP-M-Y9901E-Φ15x3.3mm-With M10 nut and right sheet metal-JINDA SM-2R	customized	UPHOTON	1	None	Visual Width Lamp	universal version	5%	2 weeks			✓
	1.2.42.22.R0091-000	JAN031-00-4.0 silicone pad	customized	MT	1	None	Tray Mat	universal version	5%	2 weeks			✓
	1.2.52.11.10005-000	Rotary support	customized	C&U	1	None	Bearing	universal version	5%	2 weeks	✓	✓	

## 4.0高压模潜伏式关键件备品备件易损件清单

物料类别	物料号	物料描述	型号	品牌	机使用数	建议使用寿命	备注	适配型号	备件比例周期	质保	关键部件	备品备件	易损件
电池	1.2.56.03.R0004	锂离子电池-24Ah-5V-57.6Whr-18AICr-5Aldr-CAN通讯-充放电同口-磷酸铁锂电池-装配-CF版本-非ROHS	定制	力神	1	1500次/3年	磷酸铁锂	通用款	5%	2周	✓	✓	
相机	1.0.01.36.R0014	中文华睿3000系列130万黑白AGV定制面阵相机(朝上) A3138MG006-28	定制	华睿	1	3年	上相机	通用款	5%	2周	✓	✓	
	1.0.01.36.R0013	中文华睿3000系列130万黑白AGV定制面阵相机(朝下) A3138MG006-337	定制	华睿	1	3年	下相机	通用款	5%	2周	✓	✓	
电机、减速机	1.2.52.06.10440-000	直流传伺服电机-F100-800W-48V-500-非ROHS	定制	远控	2	20000小时/5年	行走电机	通用款	5%	2周	✓	✓	
	1.2.52.10.10003-000	减速机-F123x15-非ROHS	定制	纽氏达特	2	20000小时/3年	行走减速机	C060型号	5%	2周	✓	✓	
	1.2.52.10.R0002-000	减速机-F123x20-非ROHS	定制	纽氏达特	2	20000小时/3年	行走减速机	C100型号	5%	2周	✓	✓	
	1.2.52.06.R0036-000	电机减速机一体-箱体式-F60-K20-500-400W-48-非ROHS	定制	远控	2	20000小时/5年	旋转减速机	通用款	5%	2周	✓	✓	
	1.2.52.06.R0024-000	4.0项目举升电机-138-非ROHS	定制	精纳	1	20000小时/3年	举升电机	通用款	5%	2周	✓	✓	
	1.2.52.10.R0022-000	0.4举升减速机-K230-230-非ROHS	定制	波林	1	20000小时/3年	举升减速机	通用款	5%	2周	✓	✓	
激光	1.2.24.03.R0007-R002	激光雷达-0.5m-25m-905nm-270°-0.25°-15Hz-±30mm-50°-55°-72.5mm-9-28V-IP66-25°C-50°C-含预装(扫描式激光雷达测距软件v1.0)-718mini-侧出线	WLR-718mini	万集	1	3年	避障激光	通用款	5%	2周	✓	✓	
	1.2.24.03.R0005-R001	激光雷达-0.05m-25m-905nm-±20mm-270°-IP66	WLR-716	万集	1	3年	导航激光	通用款	5%	2周	✓	✓	
电控盒	1.1.03.36.R0035	4.0潜伏式ARM电控箱组件	定制	华睿	1	3年	主控盒	通用款	5%	2周	✓	✓	
驱动器	1.1.03.36.R0115	4.0潜伏式ARM 1.5KW旋转驱动器组件(开模)	定制	华睿	1	3年	驱动器	通用款	5%	2周	✓	✓	
	1.1.03.36.R0114	4.0潜伏式ARM 1.5KW举升驱动器组件(开模)	定制	华睿	1	3年	驱动器	通用款	5%	2周	✓	✓	
	1.1.03.36.R0113	4.0潜伏式ARM 1.5KW行走驱动器(右)组件(开模)	定制	华睿	1	3年	驱动器	通用款	5%	2周	✓	✓	
	1.1.03.36.R0112	4.0潜伏式ARM 1.5KW行走驱动器(左)组件(开模)	定制	华睿	1	3年	驱动器	通用款	5%	2周	✓	✓	
车轮	1.2.49.08.R0179-000	JAN031-00-脚轮-无痕聚氨酯-D75-H109-E30-R63-450kg-(SD-93A, 橙黄色)	定制	四达	4	1年	脚轮	通用款	5%	2周	✓	✓	✓
	1.2.49.08.R0147-000	JAN015-00-包胶轮-PU-D160-B50 (橙黄色)-D160-B50	定制	四达	2	1年	主动轮	通用款	5%	2周	✓	✓	✓
光伏行业脚轮	1.2.49.08.R0181-000	JAN031-00-脚轮-无痕聚氨酯-D75-H109-E30-R63-200kg-(SD-75A, 橙黄色)	定制	四达	4	1年	脚轮	通用款	5%	2周	✓	✓	✓
显示屏	1.1.03.36.R0039	4.0潜伏式ARM 显示屏组件(开模)UL认证	定制	华睿	1	5年	显示屏	通用款	5%	2周	✓	✓	
传感器	1.2.24.03.R0008-R002	3D摄像机-0.3-8m-940nm-精度±1mm@60cm-iHawkV1000-供电USB-带偏振-带隔离-85.2x35.35x21.95mm	Hawk100Q	博升	1	3年	TOF相机	通用款	5%	2周	✓	✓	
扬声器	1.2.11.02.10114-R002	扬声器-GR-30W-130Hz-动圈式-线长150mm-79x79x43.5mm-(-20-60) °C-SM-2P(津浦)	8R-30W	捷力泰	1	3年	扬声器	通用款	5%	2周		✓	
安全触边	1.2.52.99.10004-000	制动器-弧形触边-内宽620mm-深191.5mm-非ROHS	定制	沃美诺	2	10000次/2年	安全触边	通用款	5%	2周	✓	✓	✓
	1.2.42.20.R0187-000	JAN022-00-4.0潜伏式AMR 触边塑胶堵头-KM	定制	乐拼	1	1年	安全触边	通用款	5%	2周			✓
开关	1.2.15.01.R0001-R001	按钮开关-3A-220VAC-银色-带静电绝缘金属按钮-12V双向LED红色灯-INO1NC-自锁-平面圆形-带接插件SM-4P (线长80mm)-安装孔径Φ19mm	3A-220VAC-银色-金属	西门子	1	10万次	电源开关	通用款	5%	2周	✓	✓	✓
	1.2.15.01.R0002-R001	按钮开关-3A-220VAC-银色-静电绝缘金属按钮-12V绿色环形指示灯-INO1NC-自复位-平面圆形-带接插件SM-4P (线长80mm)-安装孔径Φ19mm	3A-220VAC-银色-金属-12V绿色环形指示灯	西门子	2	10万次	确认开关	通用款	5%	2周	✓	✓	✓
	1.2.15.01.R0003-R001	按钮开关-3A-220VAC-银色-静电绝缘金属-12V黄色环形指示灯-INO1NC-自锁-平面圆形-带接插件SM-4P (线长80mm)-安装孔径Φ19mm	3A-220VAC-银色-金属-12V黄色环形指示灯	西门子	2	10万次	维护开关	通用款	5%	2周	✓	✓	✓
	1.2.15.00.10050	按钮开关-1A-30VDC-急停开关-2NC-防护等级IP65-接线方式焊接端子型-红色蘑菇头型圆角外壳 (有箭头标记)-自锁 (带拉出和旋转2种复位方式)-带线和接插件 (SM-4P)-安装孔处直径Φ16mm-按钮直径Φ30mm-非ROHS	A-30VDC-急停开关-2NC-防护等级IP65-红色蘑菇头型圆角外壳	和泉	2	10万次	急停开关	通用款	5%	2周	✓	✓	✓
	1.2.40.36.11863-001	IC-AGV-CUSTOM1-LED_V1.00_94_026	定制	华睿	2	5年	灯板	通用款	5%	2周	✓	✓	
单板	1.2.40.36.11640-002	ROBOT_LANSWITCH_BOARD_V1.01_59_748	定制	华睿	1	5年	交换机板	通用款	5%	2周	✓	✓	
	1.2.40.36.11701-001	ROBOT_LED_10CM_BOARD_V1.00_35_693	定制	华睿	1	5年	灯板	通用款	5%	2周	✓	✓	
	1.2.40.36.R0017-001	ROBOT_CE_CONTROL_BOARD_V101_97_013	定制	华睿	1	5年	运动控制板	通用款	5%	2周	✓	✓	
	1.1.01.36.R0521	robot_io_board_agv4_v1.03_97_215	定制	华睿	1	5年	I0板	通用款	5%	2周	✓	✓	
	1.2.40.36.R0039-001	ROBOT_LCD_5INCH_V2.01_97_034	定制	华睿	1	5年	显示板	通用款	5%	2周	✓	✓	
	1.2.40.36.R0016-001	Robot_Main_Control_E3950_Board_V2019_7_012	定制	华睿	1	5年	主控制板	通用款	5%	2周	✓	✓	
外壳	1.2.42.20.R0138-000-R006	JAN031-00-4.0潜伏式AMR 加高版塑胶后壳组件-KM-JK定制-RAL9003-DH70BWFO	定制	华睿	1	损坏时更换	前壳	通用款	5%	2周		✓	✓
	1.2.42.20.R0198-000-R001	JAN031-00-4.0潜伏式AMR 加高版塑胶前壳组件-博升TOF-KM-JK定制-RAL9003-DH70BWFO	定制	华睿	1	损坏时更换	后壳	通用款	5%	2周		✓	✓
	1.2.42.20.R0141-000-R001	JAN031-00-4.0潜伏式AMR 加高版前激光小盖板-万集-KM-DH70BWFO	定制	华睿	1	损坏时更换	激光罩	激光版本	5%	2周		✓	
	1.2.42.20.R0143-000-R002	JAN031-00-4.0潜伏式AMR 加高版后激光小盖板-万集-JK定制-RAL9003-DH70BWFO	定制	华睿	1	损坏时更换	激光罩	激光版本	5%	2周		✓	
附件	1.2.54.14.R.0006-000	M8x19内六角圆柱头平尾机牙螺钉-镀锌镍合金	定制	海墨精密	8	损坏时更换	脚轮螺钉	通用款	5%	2周			
	1.2.24.05.R0005	激光二极管-80-90mW-45°-5-12V-一字红色激光CP-MY9901D-Φ15x43.3mm-带M10螺母和左钣金-津达SM-2R	定制	驭光光电	1	损坏时更换	视阔灯	通用款	5%	2周			✓
	1.2.24.05.R0006	激光二极管-80-90mW-45°-5-12V-一字红色激光CP-MY9901E-Φ15x43.3mm-带M10螺母和右钣金-津达SM-2R	定制	驭光光电	1	损坏时更换	视阔灯	通用款	5%	2周			✓
	1.2.42.22.R0091-000	JAN031-00-4.0硅胶垫	定制	明拓机械	1	损坏时更换	托盘垫	通用款	5%	2周			✓
	1.2.52.11.10005-000	回转支撑	定制	人本	1	损坏时更换	轴承	通用款	5%	2周	✓	✓	