Safety Design by Collaborative Partners

SSA/RSA certified engineer with extensive robot system experience support risk assessment.
SSA: safety sub-assessor RSA: robot safety assessor

Establishment of safety systems through pinch prevention shape of ASSISTA and cooperative partner products.

One-stop support from safety consulting to after-sales service.
Features

Safety design means incorporating safety features to protect customers from Mechanical equipment.

Safety Assessor (SSA:87 engineers/RSA:21 engineers certified)
It is a safety qualification that certifies the knowledge ability of machine safety.
One-stop support for design, manufacturing, operation, maintenance, and after-sales service through appropriate risk assessment

risk assessment
Qualified engineer identify potential hazards and risks in the field in accordance with international standards

safety design
Realization of system design with reduced risk by using products that comply with safety standards in order to improve safety and security in the workplace

MITSUBISHI ELECTRIC SYSTEM & SERVICE CO.,LTD.
ASSISTA dedicated safety hand achieves plug & play with one connector, and auto setting with one click

ASSISTA dedicated hand realize Auto setting with one click (RT VisualBox dedicated screen)

ASSISTA dedicated hand realize Plug and play with one connector (M12 dedicated connector)

Dedicated adapter (standard accessories) for easy storage of connectors and cables

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Features

TS 15066 compliant functional safety (torque monitoring/STR) enables safety without protection fences

Essential safety design that prevents hands and fingers from being pinched (Minimum clearance complies with JIS B 9711)

A rounded appearance for the purpose of reducing the pressure in the event of a collision

Realization of Collision detection function using torque monitoring (STR) (ISO/TS 15066 compliant)
Safety Design by Collaborative Partners

Realization of safety equipment-less by the indicator mounted on the arm as standard

No need to arrange and design safety equipment (indicator) by customers

The state of the robot can be grasped by a state indicator mounted on the arm facilitates.

<table>
<thead>
<tr>
<th>Color scheme</th>
<th>ISO Standard</th>
<th>On</th>
<th>When flashing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td>Power OFF</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>aqua</td>
<td>Servo OFF</td>
<td>Controller is starting (Excluding S/W Reset)</td>
</tr>
<tr>
<td>3</td>
<td>Red</td>
<td>Emergency stop</td>
<td>Error Occurring (low-level error)</td>
</tr>
<tr>
<td>4</td>
<td>White</td>
<td>Neutral</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Yellow</td>
<td>Abnormal</td>
<td>Error Occurring (Warning, low speed/standard operation)*</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>Normal</td>
<td>Cooperative operation (Low Speed Operation)</td>
</tr>
<tr>
<td>7</td>
<td>Blue</td>
<td>Force</td>
<td>Stop (Low Speed/Standard Operation)</td>
</tr>
</tbody>
</table>
Safety Design by Collaborative Partners

RT VisualBox dedicated screen realizes safety device-less (Safety PLC, Dedicated S/W) by setting safety including peripheral devices

Safety parameter settings including peripheral devices can be set and changed with RT VisualBox

No dedicated S/W required for safety PLC or safety programming settings

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Setting up a low-speed space
It is possible to set the area for low speed operation during co-operative operation. Enable even during high-speed driving.