

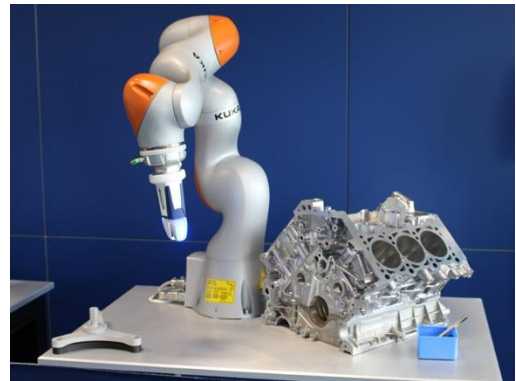
Functioning of the HRC demonstrators AUTOMATICA 2016

- Short description -

Subject: Assembly task in the automotive sector
– Load support, positioning aid

Integrator

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Assembly description

A KUKA LBR iiwa with a Co-Act EGP fitted is on the pedestal. There is also a component deposit, component, engine block and screw container on the pedestal.

Description of the program sequence

1. If the user touches the robot from above, the sequence for positioning the workpiece is started.
2. The robot goes into the gripping position and grips the workpiece out of the left side of the workpiece deposit with the Co-Act EGP and goes towards the front side of the engine block.
3. The workpiece is positioned in front of the assembly position and the robot is switched off. The operator can position the workpiece and switch the robot on again with the green button. Now the workpiece can be screwed onto the engine block.
4. By moving the robot backwards, the robot can be switched off again.
5. By pressing the green button again, the gripper opens and the robot goes back into the waiting position.
6. By touching it again, the robot goes back into the initial position.

In automatic operation (robot is not activated by touching) the robot travels down a programmed path. After 90 sec. of inactivity, the workpiece is gripped and positioned in front of the motor. After a further waiting period, the robot puts the workpiece down again.

Components used

Robots	KUKA LBR iiwa 7 R800 (with elec. feed-through and electric touch)
Flange	ISO 050
Grippers	EGP 040-N-N-B (0310940)
Sensor system	INK 40-S (2 piece), inductive
Attachment fingers	Standard Components Material: Anodized aluminum, protective coating in Automatica design, integrated lighting (colors: red; green; yellow; blue)
Protection cover	adapted to EG P040, in Automatica design, material: PA 12 (reworked)
Adaptation	customer-specific, 2-part Adapter plate between EGP and KUKA, material: anodized aluminum

Further technical information

Control assembly	Sequential program via KUKA controller, Klein-SPS (Beckhoff) for actuating the LEDs or monitoring the sensors of the EGP
Communication	Actuating the gripper via digital signals
Electrical wiring	Use of the robot-side Feed-through, component wiring in the protection cover
Electrical interfaces	Plug connector M8 connector 6-pin, plug connector M12 plug 17-pin

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