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Web Guide Installation Checklist
Displacement Guide and Steering Guide

Roll-2-Roll
Technologies

Controller Installation

- ❏ 24 VDC power supply with a minimum of 5 Amps is supplied by Roll-2-Roll Technologies or available from customer. Suggested power supplies: Mean Well SDR-120-24 or SDR-240-24
- ❏ 24 VDC power supply cable with connector is supplied by Roll-2-Roll Technologies or available from customer. Suggested alternative to factory supplied cable: Switchcraft CA761KS07984 or CARA761KS07984
- ❏ Length of the power cable is sufficient to connect the power supply in the cabinet to the SCU5 controller/operator interface installed at a desired location for operation.
- ❏ The SCU5 controller case is grounded to the protective earth or the earthed ground. The mounting holes or the mounting brackets are used to make proper protective earth connection.
- ❏ The red wire is connected to +V (+24 VDC) and black wire is connected to -V (GND) on the DC side of the power supply. The red and black wires are for the cables supplied by Roll-2-Roll Technologies.
- ❏ When the power supply is connected to the SCU5 controller, the operator interface powers up and the communication indicator or the heartbeat is blinking on the controller screen.

Sensor Installation

- ❏ The sensor mounting rail is supplied with the sensor or is available: Low Profile Sensor Rail or 1" 80/20 Style Extrusion Sensor Mounting Rail or 1.5" 80/20 Style Sensor Mounting Rail.
- ❏ The sensor slides freely in the rail and can be locked in a desired position on the rail with a brake or a thumbscrew.
- ❏ The sensor mounting rail is long enough for the desired application, especially when the web width changes.
- ❏ The sensor cable is long enough for the desired sensor location and the SCU5 controller location. Suggested cable extensions: Turck RKS 12t-5-RSS 12 T.
- ❏ The sensor or the sensor cable does not appear to be damaged.
- ❏ After connecting the sensor(s) to the controller and turning ON the power supply, the sensor(s) detect/measure the position of a material in its field of view. The web position is indicated on the operator interface and the web detect LED lights up for the sensor(s).
- ❏ **Edge and Center Guiding:**
    - ❏ For all applications, except contrast guiding application, the infrared sensor is mounted in a free span between two rollers. No object is present within 150 mm or 6 inches from the field of view of the sensor except the web itself. The sensor is within 5 mm to 15 mm (0.2 in to 0.6 in) from the web.
    - ❏ For edge or center guiding applications the sensor is installed downstream of the exit roller of the web guide. The sensor is installed within the first one-third or one-half of the exit span. Additionally, the location of the sensor is such that the plane change due to normal guiding action will maintain the web at a distance of 5 mm to 30 mm (0.2 to 1.25 in) from the sensor at all times. An additional backup roller or a dead bar may be installed to reduce the plane change effect.
- ❏ **Contrast Guiding:**
    - ❏ For contrast guiding, line guiding and other contrast sensing applications, the white light sensor is installed at a distance of 5 mm (0.2 in) from the web. The web in the field of view of the sensor is supported on a backup roller so that the web is stabilized to prevent any plane change or flutter.
    - ❏ The sensor and the backup roller are installed downstream of the web guide within the first one-third or one-half of the exit span. The wrap angle of the web on the backup roller is no more than 20 degrees.
- ❏ Use the sensor installation recommendation to finalize the location and position of the sensor.

Web Guide Installation

- ❏ If you are replacing an existing web guide with a Roll-2-Roll® Web Guide, then ensure that span lengths and wrap angles with the new web guide are similar to the old one.
- ❏ If the web guide is installed in a new location make sure that the web guide has the desired wrap angles and span lengths.

This document includes embedded links and is best viewed on a computer so that the embedded links can be accessed.

- ❏ Ensure that the web guide mechanism is installed on a flat surface so that the web guide rollers are parallel to the rest of the rollers on the machine when the web guide is in servo center position or its home position.
- ❏ Ensure direction of the web over the web guide matches the direction indicated on the web guide mechanism.
- ❏ If a sensor mounting rail is pre-installed on the web guide, then use that for sensor installation. If not, mount the sensor downstream of the web guide within one third to one half of the exit span.
- ❏ Ensure that the motion of the web guide does not cause the web to touch the sensor. Follow the sensor installation recommendations.

Displacement Guide Installation

- ❏ Entry and exit spans can be as low as 1 to 0.5 web width depending on the web tension and web material properties. For stiffer webs with higher tension 2 to 3 web widths may be needed for the entry and exit span.
- ❏ For more information about [displacement guide installation refer to this document](#).

Steering Guide Installation

- ❏ Entry and exit spans can be as low as 1 to 0.5 web width depending on the web tension and web material properties. For stiffer webs with higher tension 2 to 3 web widths may be needed for the entry and exit span.
- ❏ For more information about [steering guide installation refer to this document.](#)

Checking the Installation:

- ❏ The Jog functionality on the SCU5 controller moves the guide structure back and forth.
- ❏ The servo center functionality on the SCU5 controller centers the guide structure at the middle position of the guide structure.
- ❏ With the sensor connected to the SCU5 controller, the automatic functionality moves the actuator based on the web position.
- ❏ The actuator polarity is set such that the web guide moves to the direction desired in manual mode. If not, the actuator polarity is reversed.
- ❏ Check the controller error polarity to ensure that the web guide corrects for the error. If the polarity is not set correctly then the web guide is moved to an extreme position whenever the web is not at the guidepoint. In that case change the error polarity.