

Ultrasound edge sensor FX 5030, FX 5060, FX 5100

The ultrasound sensor is specially designed to detect the edges of material such as paper, foil or film that are impermeable to sound. Even on foils with a high and dramatically fluctuating degree of transparency, the sensor assures reliable web edge detection.

The integrated LED strip in the receiver especially, helps the user to manually position the sensor. The display may simply be switched off when used with light-sensitive materials.

Due to the wide measuring range, no motor-driven sensor follow-up is necessary when the width fluctuates only minimally. In conjunction with motor-driven support beams and web center guiding, a width measuring function is generally included.



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Function

The sensor features four sets of transmitters and receivers that, due to their patented arrangement, provide a measuring range of +/- 10 mm with a resolution of 0.1 mm. The transmitter produces soundwaves that, depending on the degree of covering by the web edge, produce lesser or greater degrees of amplitude in the receivers. The analog voltage is digitalized in the AD converter, the value is subsequently sent to the microprocessor and, once processed appropriately, output via the CAN interface to the controller.

The sensor is largely impervious to height fluctuations in the web.

The edge position within the measuring range is indicated on the membrane keyboard integrated on the sensor which is also used for parameter setting.



Technical Data FX 5030 / 5060 / 5100

Supply voltage Nominal value Permissible range (including ripple)	24 V DC 20 - 30 V DC
Power consumption	ca. 170 mA display ON
Power consumption	ca. 100 mA display OFF
Rating	ca. 4,0 W display ON
Rating	ca. 2.5 W display OFF
Transmitter frequency	200 kHz modulated
Modulation frequency	1 kHz
Measuring range	± 10 mm
Measuring accuracy	0.1 mm
Ambient temperature	10 °C to + 50 °C
Storage temperature	- 25 °C to + 50 °C
Temperature drift (typical) at 60 % relative humidity	0.025 mm/K approx.
Scanning rate	200 Hz
Line length	max. 8 m
Protection class	max. IP 65 with suitable connector inserted
Weight	ca 0.67 kg

Subject to technical modifications without notice