

## EVK2-CP

### Sensing of the strip edge position

#### Data Sheet

Function:	Sensing of the strip edge position
Mechanical design:	Aluminium section with electronic terminal box and motor-driven sensors
Connection:	CAGE CLAMP® terminal connections
Weight:	Between 15 kg and 20 kg depending on measuring length

#### Application

The sensor positioner device type EVK2-CP is used for strip edge detection in strip processing lines. Standard applications are steel strip edge and centre guiding systems (two positioners type EVK2-CP required).

Signal interface between the sensors and the control electronics is carried out by means of CANOpen data transmission.

#### View



#### Sensors

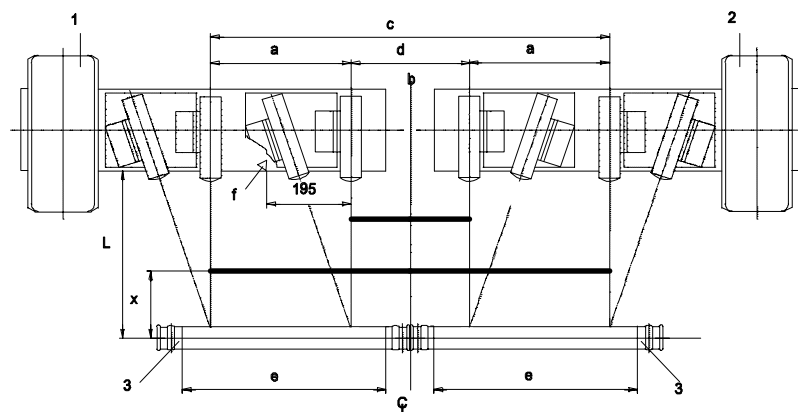
The strip edge position is detected by a motor-driven sensor positioner device. In the standard version, it is equipped with a light measuring system type LS13 / LS14 which is protected against ambient light. The actual sensor slide position is constantly monitored via an integral rotary potentiometer.

The light transmitters are light units type LIH, which are operated from a 1000 Hz supply voltage.

#### Position transducer (optional extra):

For highly precise applications such as accurate strip width measurement or strip centering systems at welding machines, the EVK2-CP is provided with an additional SSI position transducer.

#### Arrangement of the measuring system (with two EVK2-CP)



Arrangement of two EVK2-CP and the light units in the line

1 EVK2-CP left side

a. EVK stroke

b. Line centre

c. Max. strip width

2 EVK2-CP right side

d. Min. strip width

e. Useable length of light unit LIH

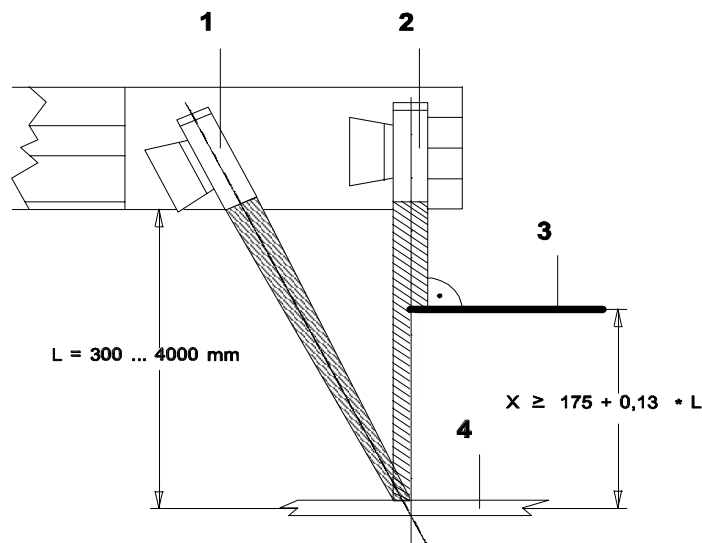
f. Reference point

3 Light unit (LIH...)

## Measuring principle

The strip edge is detected by a motor-driven sensor positioner device which is equipped with a HF alternating light unit LS13 / LS14 with protection against ambient light. If the strip edge is displaced due to a change in strip width or a lateral strip deviation, this is detected by the photocells. The superimposed control electronics then activate the DC motor or the actuator of the control circuit, in order to ensure that the strip edge always covers half of the measuring range of the photocell.

In order to compensate for dirt on the light transmitters, the reference measuring method is applied. Each item of measuring equipment has a measuring and a receiver photocell which are directed to the same light spot at the light transmitter. While the receiver photocell detects the lateral position of the strip edge, the reference photocell measures the background brightness of the light spot.



## Arrangement of the HF measuring- and HF receiver photocells

1 Reference photocell (LS14)	3 Strip
2 Measuring photocell (LS13)	4 Light unit (LIH.../ LIC...)
L Distance light unit – reference photocell	$L = 300 \dots 4\ 000 \text{ mm}$
X Distance light unit – strip	$X \geq 175\text{mm} + (0,13 \cdot L)$

## Type code

Type	Stroke / mm	Design	Arrangement of the electronics
EVK2-CP	e. g. 250, 400, 600, 800, 1000	At request	L or R

## Technical data

Motor voltage :	26 V DC
Electronic supply :	$\pm 15 \text{ V}$
Power:	$< 100 \text{ VA}$
Interface:	CANOpen
Type of protection:	IP 65
Ambient temperature:	$0 \dots + 50 \text{ }^\circ\text{C}$

The EVK2-CP is completely supplied and controlled by the SPC16 control amplifier.