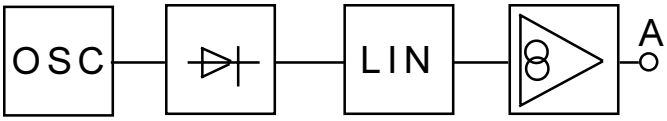
SPECIALITY CAPACITIVE SENSORS
ANALOG SENSOR

Features:

- Non-contact sensing of objects.
- Colors and surface roughness have no effect on measurement results.
- Used to indicate different materials.
- Easy to calibrate.
- Rugged, reliable construction.

Application:

- Material selection.
- Product thickness monitoring.
- Concentricity deviation.
- and so on.

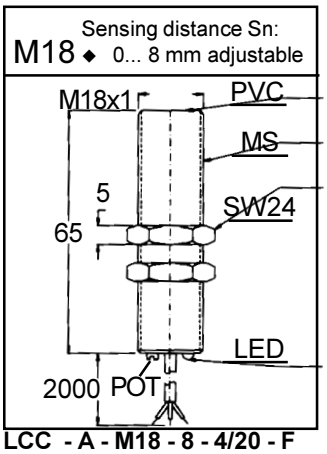


Functional Principle:

The functional principle behind the capacitive analog position pick-up is similar to that of a capacitive proximity switch. It detects objects which are within its response range without touching them.

The function is based on the effect on the electric field in the vicinity of its "active sensor surface". The basic structure of the sensor consists of an oscillator, a demodulator, the linearization network and the controlled current source.

The criteria for an analog evaluation are the material properties, the size of the object involved, and its distance from the "active sensor surface". For objects deviating from the standard target, the maximum working distance is reduced. In actual operation, the optimum calibration to be performed from the rear of the housing over a trimming potentiometer is signalled to the user by the adjacent LED. As a further special feature, this LED also signals if the load impedance at the output is too high or nonexistent.



LCC - A - M18 - 8 - 4/20 - F

PART NUMBER KEY:
Example:
LCC - A - M18 - 8 - 4/20 - F

LCC Proximity sensors
Cable connect

A Analog output

M18 Housing diameter (mm)
M = thread size

8 Max. sensing distance (mm)

4/20 4 ... 20 mA Output

F Mounting
F = Flush
NF = Non-flush

Technical Data:

Cut-off frequency (3dB)	100Hz
Switchpoint reprod. (T=const.)	$\leq$ 0.05 mm
Ambient temperature	10° ... 55° C
Temperature drift	typ. $\pm$ 0.025 mm/°C
Protection class DIN 40050	IP 67
Housing material	Brass/PVC
Connection cable 2 m	3 x 0.25 mm² PVC
Power supply U_B	12 ... 35 VDC
Permissible ripple	$\leq$ 10% U_B
No-load current (24 VDC)	$\leq$ 17 mA
Output signal	4 + 0.1/0.3mA ... 20 $\pm$ 0.6 mA
Power dissipation maximum	2 W (U_B=35 VDC; R_L = 0 Ohm)
No-load protection	included
Load monitoring	included
EMC protection	included
Reverse polarity protection	included
LED display	included
Output current is monitored	typ. 23 mA $\pm$ 2 mA
Actuating current max.	$\leq$ 55 mA
Linearity	$\pm$ 2% d.E. (end of measuring range)
Resolution	0.15 mm
Warming-up time for char. value	$\geq$ 5 min.