

Product Description

- The lpc-sensor offers a non-contact measurement of the distance to an object which must be positioned within the sensor's detection zone. In dependence of the set window limits, a distance-proportional analogue signal is output.
- The ultrasonic transducer surface of the lpc-25/PK... sensor is laminated with a PEEK film. The transducer itself is sealed against the housing by a PTFE joint ring. This composition ensures a high resistance against many aggressive substances.
- Via the Sync/Com input (pin 5), the window limits of the analogue output and its characteristic can be adjusted (teach-in). Two LEDs indicate the state of the output.
- With the LinkControl adapter, which is available as accessory, all

sensor parameters can optionally be set via a PC.

Safety Notes

- Read the operating instructions prior to start-up.
- Connection, installation and adjustment works may only be carried out by expert personnel.
- No safety component in accordance with the EU Machine Directive.

Installation

- Mount the sensor at the installation site.
- Connect a connection cable to the M12 device plug.

		colour
1	+U _B	brown
3	-U _B	blue
4	-	black
2	I/U	white
5	Sync/Com.	grey

Fig. 1: Pin assignment with view onto sensor plug and colour coding of the microsonic connection cable

Synchronisation

With the synchronous mode activated and an electrical interconnection of the Sync/Com inputs (pin 5), up to 10 sensors can be synchronised.

Maintenance

microsonic sensors are maintenance-free. With heavy dirt deposits, we recommend a cleaning of the laminated sensor surface.

Note

- As a result of the design the assembly of PEEK film and PTFE joint ring is not gas-proof.
- The chemical resistance has to be tested experimentally if necessary.
- The lpc sensor has a blind zone, within which distance measurements are not possible.
- The lpc sensor is equipped with an internal temperature compensation. Due to the sensor's self-heating, the temperature compensation reaches its optimum working point after approx. 30 minutes of operation.
- In the normal operating mode, an illuminated LED signals that the object is positioned inside the range of the analogue window.
- In the synchronous mode, an adjustment via teach-in is not possible.

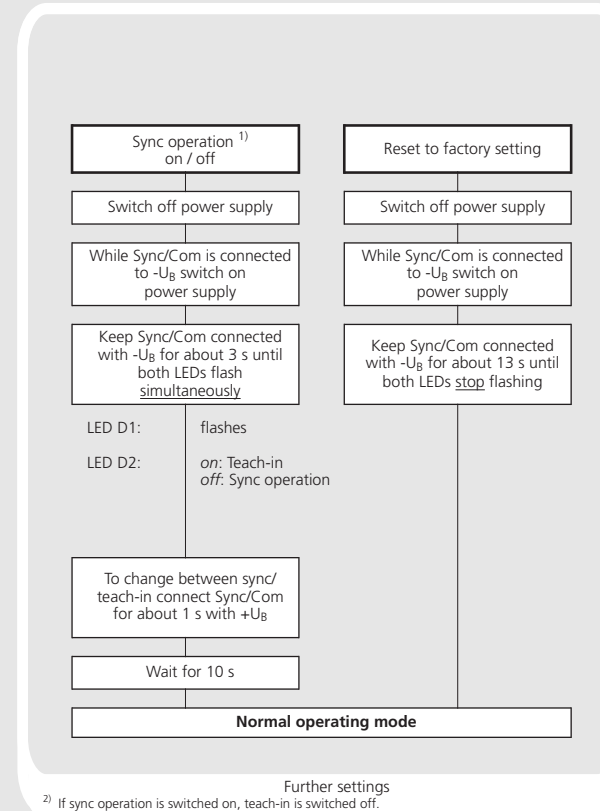
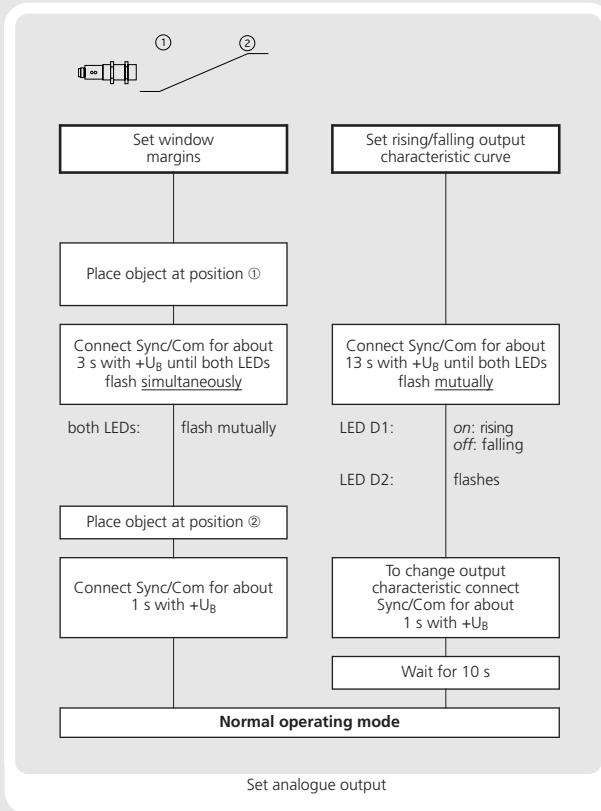
- If no signal is transmitted to the Sync/Com input for 30 seconds during the teach-in setting, the settings made hitherto are deleted.
- The sensor can be reset to its factory setting.

Operating Instructions

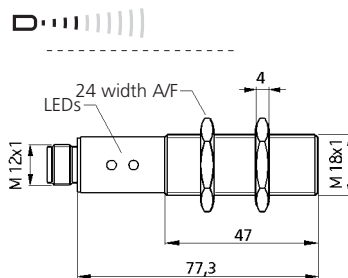
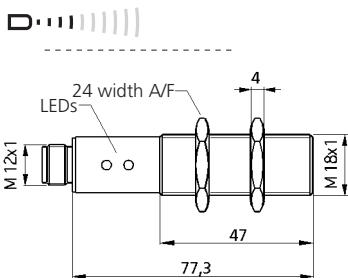
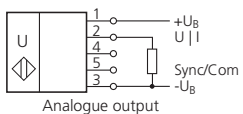
lpc-25/PK/CI/M18E
lpc-25/PK/CU/M18E

Ultrasonic Proximity Switch with one analogue output

Sensor adjustment with Teach-in procedure



Technical data

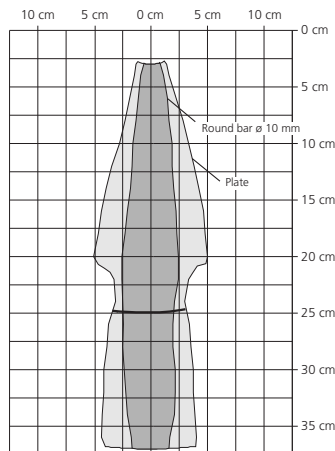
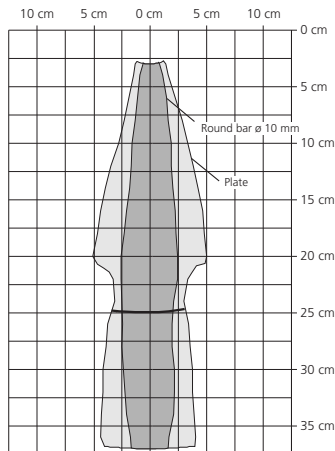


blind zone	30 mm
operating range	250 mm
maximum range	350 mm
angle of beam spread	See detection zone
transducer frequency	320 kHz
resolution, sampling rate	0,08 mm
reproducibility	± 0,15 %
accuracy	Temperature drift internal compensated, ≤ 2 % may be deactivated ¹⁾

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detection zones

for different objects:
The dark grey areas are determined with a thin round bar (10 or 27 mm dia.) and indicate the typical operating range of a sensor. In order to obtain the light grey areas, a plate (500 x 500 mm) is introduced into the beam spread from the side. In doing so, the optimum angle between plate and sensor is always employed. This therefore indicates the maximum detection zone of the sensor. It is not possible to evaluate ultrasonic reflections outside this area.



operating voltage U_B	10 – 30 V DC, reverse polarity protection	10 – 30 V DC, reverse polarity protection
voltage ripple	±10 %	±10 %
no-load current consumption	< 40 mA	< 40 mA
housing	Stainless steel 1.4571; plastic parts: PBT; ultrasonic transducer : PEEK film, PTFE	Stainless steel 1.4571; plastic parts: PBT; ultrasonic transducer : PEEK film, PTFE
class of protection to EN 60 529	IP 67	IP 67
type of connection	5-pin M12 initiator plug, Stainless steel 1.4571	5-pin M12 initiator plug, Stainless steel 1.4571
controls	Yes, Sync/Com input	Yes, Sync/Com input
indicators	2 yellow LEDs	2 yellow LEDs
programmable	Yes, LinkControl	Yes, LinkControl
synchronization	Yes, internal	Yes, internal
operating temperature	-25°C bis +70°C	-25°C bis +70°C
storage temperature	-40°C bis +85°C	-40°C bis +85°C
weight	65 g	65 g
analogue output	0...10 V R _i ≥ 100 kΩ at U _B ≥ 15 V, short-circuit-proof, rising/falling characteristic	4...20 mA R _i ≤ 100 Ω at 10 V ≤ U _B ≤ 20 V, R _i ≤ 500 Ω bei U _B ≥ 20 V, rising/falling characteristic
response time ¹⁾	24 ms	24 ms
time delay before availability	< 300 ms	< 300 ms
norm conformity	EN 60947-5-2	EN 60947-5-2

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¹⁾ Can be programmed with LinkControl

