



Operating Instructions

Ultrasonic one-way reflective barrier with one switched output

ews-15/M18/CD Set

ews-25/M18/CD Set

ews-100/M18/CD Set

Product Description

If an object interrupts the measuring track between two ews-.../M18/CD, one set as a transmitter and another set as a receiver, the switched output of the receiver is set.

Via the Control input, the response time and the output function of the switched output are changeable (Teach-in).

Two LEDs indicate operation and the state of the switched output of the receiver.

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.

Proper use

ews ultrasonic sensors are used for non-contact detection of objects.

Installation

- Mount two sensors ews-.../M18/CD at the installation site (see fig. 3).

Maximum torque: 0,5 Nm

- Connect the connection cables to the M12 device plugs.

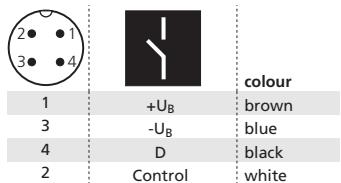


Fig. 2: Selection of operation mode.

Start-Up

- Connect the power supply.
- Carry out the setting in accordance with the diagram.

Factory Setting

- Switched output on NOC.
- Filter not active.

Maintenance

microsonic sensors are maintenance-free. In case of excess caked-on dirt we recommend cleaning the white sensor surface

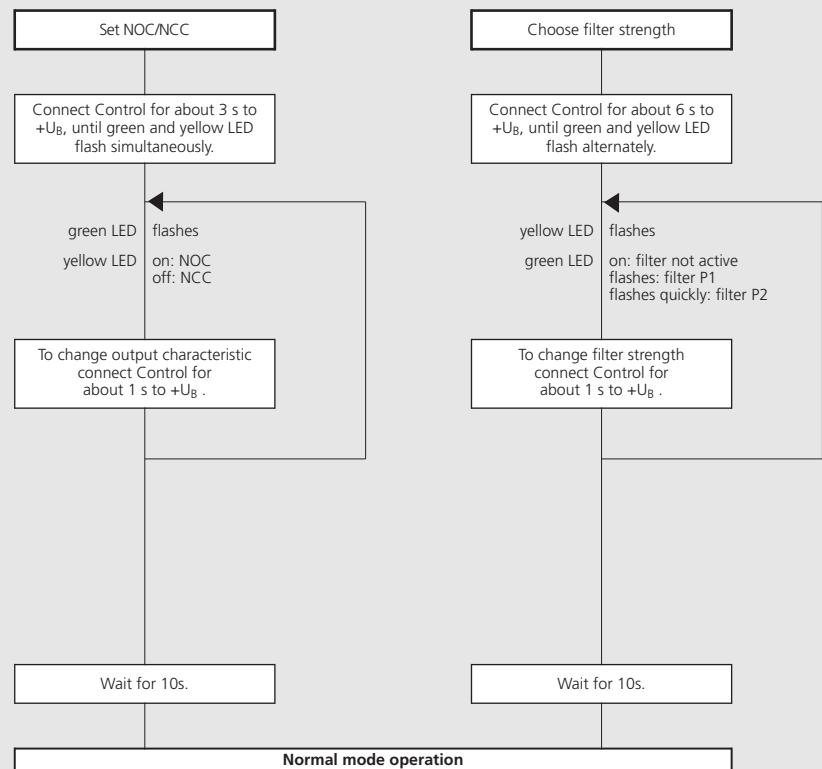
Notes

- In the normal operating mode, an illuminated yellow LED at the receiver signals the switched output is switched through.
- The objects to be detected have to be bigger than the detection area.
- The actual detect points depend on size and shape of the object.
- An ews-.../M18/CD Set consists of two ews-.../M18/CD.



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Sensor adjustment with Teach-in procedure



Detection areas and minimum object sizes

Sensortyp	Mounting distance	Minimum object diameter ¹⁾
ews-15	50 mm	ø 10 mm
	150 mm	ø 10 mm
ews-25	100 mm	ø 27 mm
	200 mm	ø 27 mm
	400 mm	ø 40 mm
ews-100	625 mm	ø 70 mm
	1,250 mm	ø 70 mm
	2,500 mm	ø 40 mm

¹⁾ The given minimum object diameter relates to a round bar that is moved vertically to transmitter and receiver unit into the detection area.

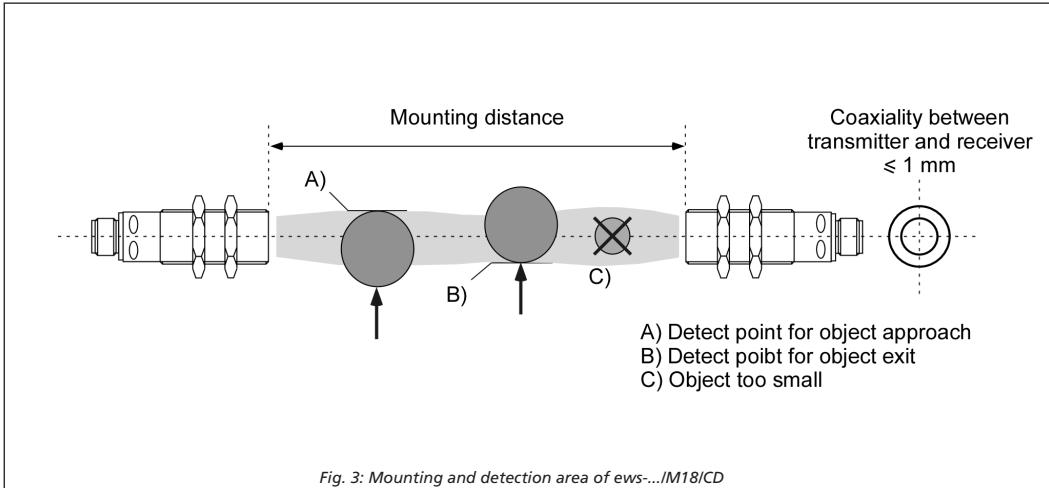
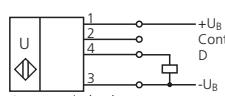
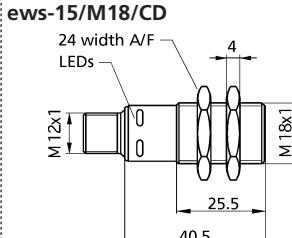
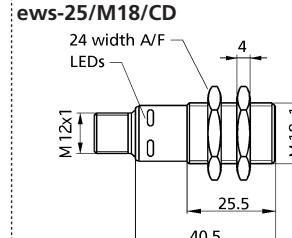
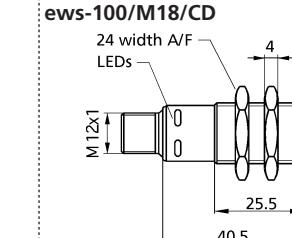


Fig. 3: Mounting and detection area of ews-.../M18/CD

	ews-15/M18/CD	ews-25/M18/CD	ews-100/M18/CD
			
spacing transmitter - receiver	10 - 150 mm	10 - 400 mm	100 - 2,500 mm
transducer frequency	380 kHz	320 kHz	200 kHz
detection area	see table »detection areas« and fig. 3	see table »detection areas« and fig. 3	see table »detection areas« and fig. 3
operating voltage U_B	10 - 30 V DC, reverse polarity protection	10 - 30 V DC, reverse polarity protection	10 - 30 V DC, reverse polarity protection
voltage ripple	±10 %	±10 %	±10 %
no-load current consumption as receiver	< 45 mA	< 45 mA	< 50 mA
no-load current consumption as transmitter	< 25 mA	< 25 mA	< 25 mA
housing	PBT ultrasonic transducer: polyurethane foam, epoxy resin with glass content IP 67	PBT ultrasonic transducer: polyurethane foam, epoxy resin with glass content IP 67	PBT ultrasonic transducer: polyurethane foam, epoxy resin with glass content IP 67
class of protection to EN 60 529			
type of connection	4-pin M12 initiator plug	4-pin M12 initiator plug	4-pin M12 initiator plug
controls	Control input	Control input	Control input
programmable	Teach-in	Teach-in	Teach-in
indicators	LED green (transmitter and receiver: operation) LED yellow (only receiver: state of output)	LED green (transmitter and receiver: operation) LED yellow (only receiver: state of output)	LED green (transmitter and receiver: operation) LED yellow (only receiver: state of output)
operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
storage temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
weight	2 x 15 g	2 x 15 g	2 x 15 g
switching frequency¹⁾	filter P0: 500 Hz filter P1: 166 Hz filter P2: 125 Hz filter P0: 2 ms filter P1: 6 ms filter P2: 6 ms	filter P0: 500 Hz filter P1: 166 Hz filter P2: 125 Hz filter P0: 2 ms filter P1: 6 ms filter P2: 6 ms	filter P0: 200 Hz filter P1: 66 Hz filter P2: 50 Hz filter P0: 5 ms filter P1: 15 ms filter P2: 15 ms
response time¹⁾	< 300 ms	< 300 ms	< 300 ms
time delay before availability	< 300 ms	< 300 ms	< 300 ms
norm conformity	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
order no.	ews-15/M18/CD Set	ews-25/M18/CD Set	ews-100/M18/CD Set
switched output	pnp, U_B -2 V, I_{max} = 200 mA switchable NOC/NCC, short-circuit-proof	pnp, U_B -2 V, I_{max} = 200 mA switchable NOC/NCC, short-circuit-proof	pnp, U_B -2 V, I_{max} = 200 mA switchable NOC/NCC, short-circuit-proof

1) Can be programmed with Teach-in.

