



nero

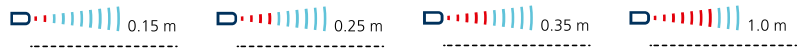
Ultrasonic proximity switch nero in M18 plastic sleeve with 4 detection ranges.

HIGHLIGHTS

- › Variant with 90° angled head

BASICS

- › 1 switching output, pnp or npn basis
- › 4 detection ranges with a measurement range of 20 mm to 1.3 m
- › microsonic Teach-in on pin 2
- › 0.2 mm resolution
- › 10–30 V operating voltage



nero ultrasonic proximity switches

are available in a M18 plastic sleeve. In addition to the axial beam direction variant, there is also a housing variant with a 90° angled head and radial beam direction. The ultrasonic proximity switches detect objects contactless and reliable a vailable in four detection ranges from 20 mm to 1.3 m.

For the nero sensor family

there are 1 output stage and 4 detection ranges available:

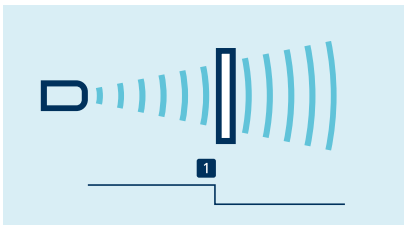
- 1 switching output with pnp or npn switching technology

Sensors with switching output have three operating modes:

- › Single switching point
- › Two-way reflective barrier
- › Window mode

Teach-in of a single switching point

- › Place object to be detected at the desired distance **1**
- › Apply +U_B to pin 2 for about 3 seconds
- › Then apply +U_B to pin 2 again for about 1 second

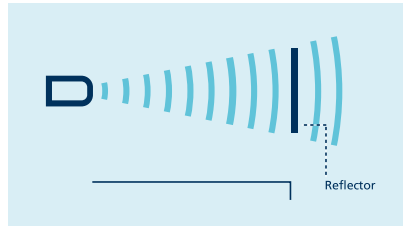


Teach-in of a switching point

Teach-in of a two-way reflective barrier

with a fixed reflector

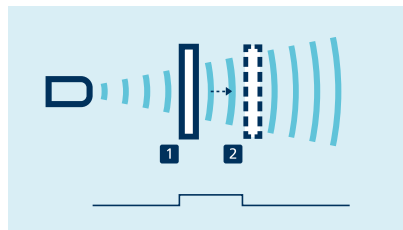
- › Apply +U_B to pin 2 for about 3 seconds
- › Then apply +U_B to pin 2 again for about 10 seconds



Teach-in of a two-way reflective barrier

For configuration of a window

- › Place object at the near edge of the window **1**
- › Apply +U_B to pin 2 for about 3 seconds
- › Then move the object to the far edge of the window **2**
- › Then apply +U_B to pin 2 again for about 1 second



Teach-in of a window with two switching points

NCC/NOC

can also be set via pin 2.

One green and one yellow LED

indicate the state of the output and support microsonic Teach-in.

nero-15



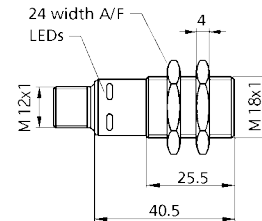
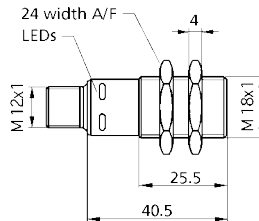
nero-25



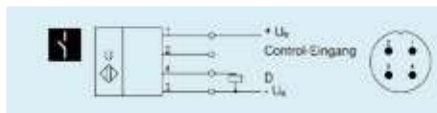
measuring range

20–250 mm

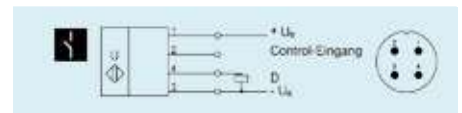
30–350 mm



blind zone	20 mm	30 mm
operating range	150 mm	250 mm
maximum range	250 mm	350 mm
angle of beam spread	please see i	please see i
transducer frequency	380 kHz	320 kHz
resolution/sampling rate	0.20 mm	0.20 mm
reproducibility	± 0.15 %	± 0.15 %
accuracy	temperature drift 0.17 %/K	temperature drift 0.17 %/K
operating voltage U_B	10 to 30 V DC, reverse polarity protection	10 V to 30 V DC, reverse polarity protection
no-load current consumption	≤ 40 mA	≤ 40 mA
housing	PBT; ultrasonic transducer: polyurethane foam, epoxy resin with glass content	PBT; ultrasonic transducer: polyurethane foam, epoxy resin with glass content
class of protection according to EN 60529	IP 67	IP 67
type of connection	4-pin M12 initiator plug	4-pin M12 initiator plug
controls	Teach-in via pin 2	Teach-in via pin 2
scope for settings	Teach-in	Teach-in
indicators	LED green: working, LED yellow: switch status	LED green: working, LED yellow: switch status
operating temperature	-25°C to +70°C	-25°C to +70°C
storage temperature	-40°C to +85°C	-40°C to +85°C
weight	15 g	15 g
switching hysteresis	2 mm	3 mm
switching frequency	25 Hz	25 Hz
response time	32 ms	32 ms
delay prior to availability	< 300 ms	< 300 ms
order number	nero-15/CD	nero-25/CD
switching output	pnp, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof	pnp, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof

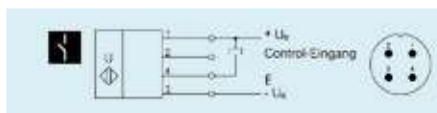


1 pnp switching output

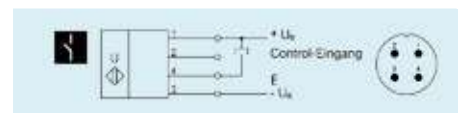


1 pnp switching output

order number	nero-15/CE	nero-25/CE
switching output	npn, $U_B+2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof	npn, $U_B+2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof



1 npn switching output

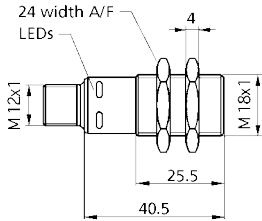


1 npn switching output

nero-35



65–600 mm

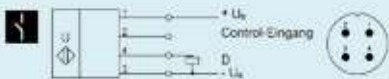


- 65 mm
- 350 mm
- 600 mm
- please see ⓘ
- 400 kHz
- 0.20 m
- ± 0.15 %
- temperature drift 0.17 %/K
- 10 V to 30 V DC, reverse polarity protection
- ≤ 40 mA
- PBT; ultrasonic transducer: polyurethane foam, epoxy resin with glass content
- IP 67
- 4-pin M12 initiator plug
- Teach-in via pin 2
- Teach-in
- LED green: working, LED yellow: switch status

- 25°C to +70°C
- 40°C to +85°C
- 15 g
- 5 mm
- 12 Hz
- 64 ms
- < 300 ms

nero-35/CD

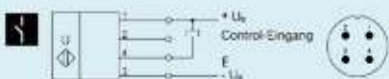
pnp, $U_B = 2 V$, $I_{max} = 200 mA$
 NOC/NCC adjustable, short-circuit-proof



1 pnp switching output

nero-35/CE

nnp, $U_B = 2 V$, $I_{max} = 200 mA$
 NOC/NCC adjustable, short-circuit-proof

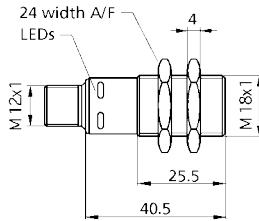


1 npn switching output

nero-100



120–1,300 mm

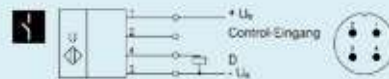


- 120 mm
- 1,000 mm
- 1,300 mm
- please see ⓘ
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- 10 Hz
- 80 ms
- < 300 ms

nero-100/CD

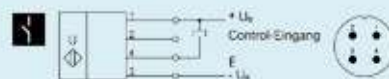
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nero-100/CE

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nero-15

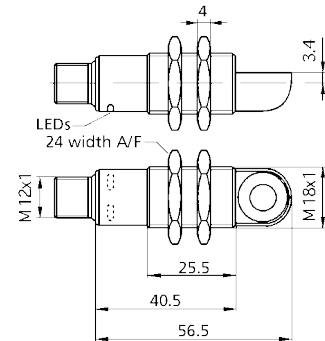
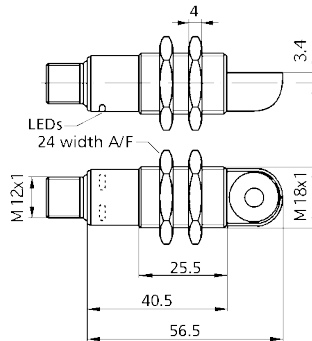
nero-25



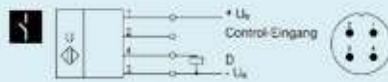
measuring range

20–250 mm

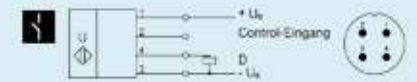
30–350 mm



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switching frequency	25 Hz	25 Hz
response time	32 ms	32 ms
delay prior to availability	< 300 ms	< 300 ms
order number	nero-15/WK/CD	nero-25/WK/CD
switching output	pnp, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof	pnp, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof

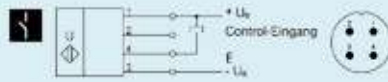


1 pnp switching output

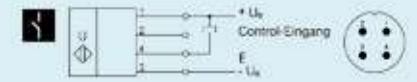


1 pnp switching output

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switching output	npn, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof	npn, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$ NOC/NCC adjustable, short-circuit-proof



1 npn switching output

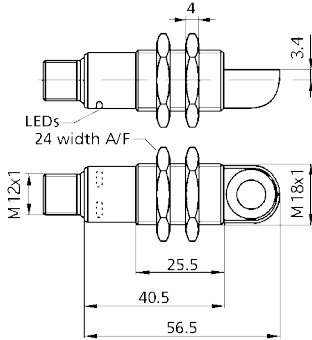


1 npn switching output

nero-35



65–600 mm

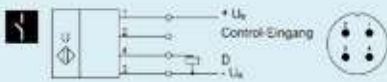


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- 20 g
- 5 mm
- 12 Hz
- 64 ms
- < 300 ms

nero-35/WK/CD

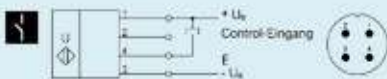
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 NOC/NCC adjustable, short-circuit-proof



1 pnp switching output

nero-35/WK/CE

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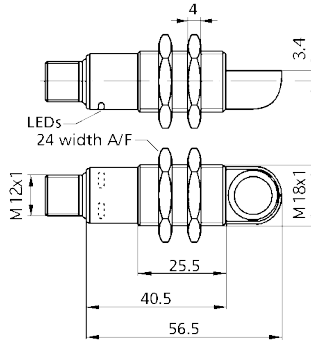


1 npn switching output

nero-100



120–1,300 mm

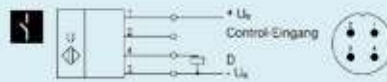


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- 1,000 mm
- 1,300 mm
- please see ⓘ
- 200 kHz
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- ± 0.15 %
- temperature drift 0.17 %/K
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nero-100/WK/CD

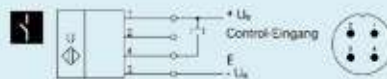
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1 pnp switching output

nero-100/WK/CE

npn, $U_B=2\text{ V}$, $I_{\max}=200\text{ mA}$
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1 npn switching output