

Sd = 250 mm

- potentiometer
- synchronization output
- small blind range



UNDK 30 Sd = 250 mm

general data

sensing range sd	30 ... 250 mm
scanning range far limit Sde	30 ... 250 mm
hysteresis typ.	4% Sde
repeatability	< 0,5 mm
synchronization	yes
multiplex version	on request
temperature drift	< 0,18% Sde/K
adjustment	potentiometer
response time ton (synch on)	< 10 ms
release time toff (synch on)	< 10 ms
alignment aid	target display flashing
sonic frequency	300 kHz
output indicator	LED green

electrical data

voltage supply range +Vs	12 ... 30 VDC
current consumption max.	35 mA
output current	< 200 mA
voltage drop Vd	< 2 VDC
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes

mechanical data

type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm

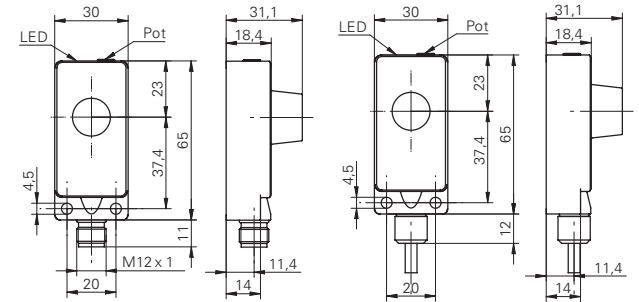
ambient conditions

operating temperature	-25 ... +60 °C
protection class	IP 67

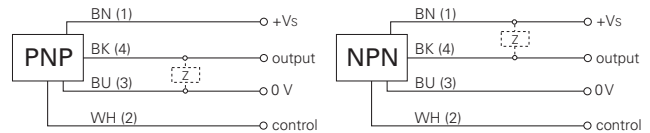
accessories

connectors	ES 14, ESW 33A, ESG 34A
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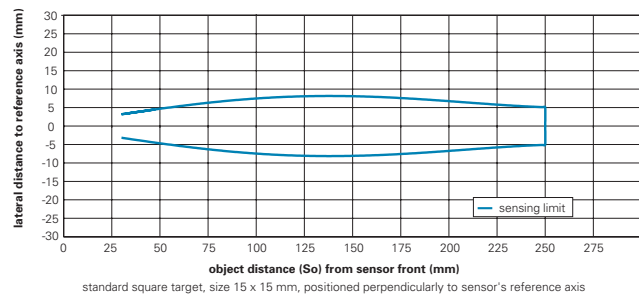
dimension drawings



connection diagrams

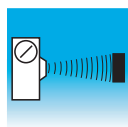


typical sonic cone profile



Ultrasonic proximity sensors

order reference	output circuit	connection types
UNDK 30N1713	NPN make function (NO)	cable
UNDK 30N1713/S14	NPN make function (NO)	connector M12
UNDK 30N3713	NPN break function (NC)	cable
UNDK 30N3713/S14	NPN break function (NC)	connector M12
UNDK 30P1713	PNP make function (NO)	cable
UNDK 30P1713/S14	PNP make function (NO)	connector M12
UNDK 30P3713	PNP break function (NC)	cable
UNDK 30P3713/S14	PNP break function (NC)	connector M12



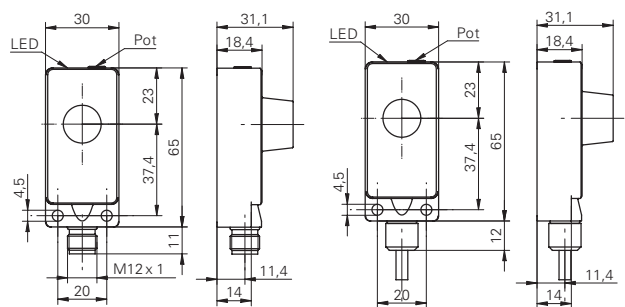
Sd = 400 mm

- potentiometer
- synchronisation output

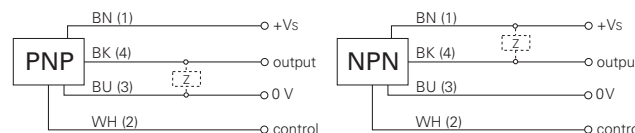


general data	
sensing range sd	60 ... 400 mm
scanning range far limit Sde	60 ... 400 mm
hysteresis typ.	4% Sde
repeatability	< 0,5 mm
synchronization	yes
multiplex version	on request
temperature drift	< 0,18% Sde/K
adjustment	potentiometer
response time ton (synch on)	< 25 ms
release time toff (sync on)	< 25 ms
alignment aid	target display flashing
sonic frequency	400 kHz
output indicator	LED green
electrical data	
voltage supply range +Vs	12 ... 30 VDC
current consumption max.	35 mA
output current	< 200 mA
voltage drop Vd	< 2 VDC
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes
mechanical data	
type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm
ambient conditions	
operating temperature	-25 ... +60 °C
protection class	IP 67
accessories	
connectors	ES 14, ESW 33A, ESG 34A

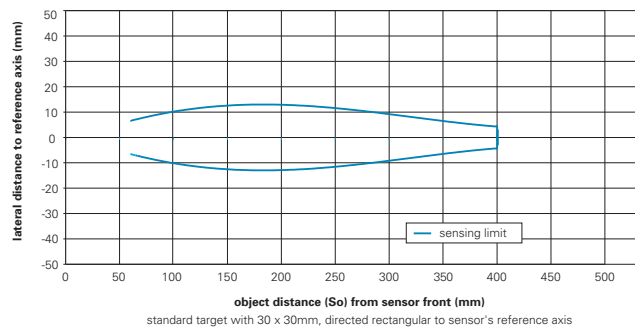
dimension drawings



connection diagrams



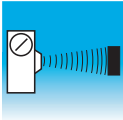
typical sonic cone profile



order reference	output circuit	connection types
UNDK 30N1712	NPN make function (NO)	cable
UNDK 30N1712/S14	NPN make function (NO)	connector M12
UNDK 30N3712	NPN break function (NC)	cable
UNDK 30N3712/S14	NPN break function (NC)	connector M12
UNDK 30P1712	PNP make function (NO)	cable
UNDK 30P1712/S14	PNP make function (NO)	connector M12
UNDK 30P3712	PNP break function (NC)	cable
UNDK 30P3712/S14	PNP break function (NC)	connector M12

UNDK 30 Sd = 400 mm

Ultrasonic proximity sensors



Sd = 1000 mm

- potentiometer
- synchronisation output
- temperature compensation



UNDK 30 Sd = 1000 mm

general data

sensing range sd	100 ... 1000 mm
scanning range far limit Sde	100 ... 1000 mm
hysteresis typ.	4% Sde
repeatability	< 0,5 mm
synchronization	yes
multiplex version	on request
temperature drift	< 0,1% Sde/K
adjustment	potentiometer
response time ton (synch on)	< 50 ms
release time toff (synch on)	< 50 ms
alignment aid	target display flashing
sonic frequency	240 kHz
output indicator	LED green

electrical data

voltage supply range +Vs	12 ... 30 VDC
current consumption max.	35 mA
output current	< 200 mA
voltage drop Vd	< 2 VDC
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes

mechanical data

type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm

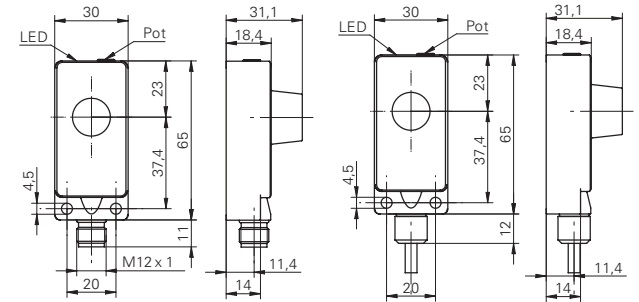
ambient conditions

operating temperature	-10 ... +60 °C
protection class	IP 67

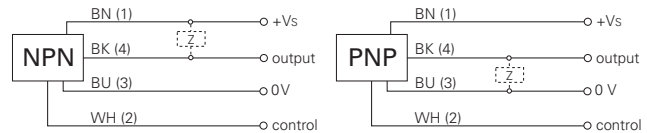
accessories

connectors	ES 14, ESW 33A, ESG 34A
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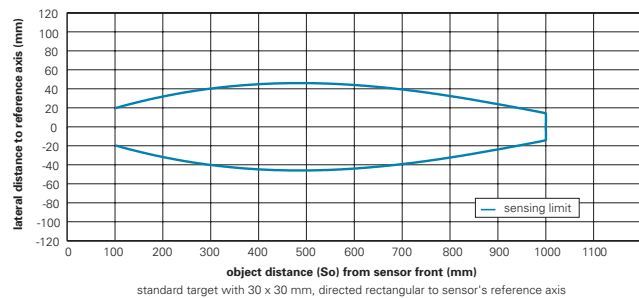
dimension drawings



connection diagrams

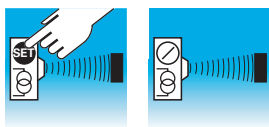


typical sonic cone profile



Ultrasonic proximity sensors

order reference	output circuit	connection types
UNDK 30N1703	NPN make function (NO)	cable
UNDK 30N1703/S14	NPN make function (NO)	connector M12
UNDK 30N3703	NPN break function (NC)	cable
UNDK 30N3703/S14	NPN break function (NC)	connector M12
UNDK 30P1703	PNP make function (NO)	cable
UNDK 30P1703/S14	PNP make function (NO)	connector M12
UNDK 30P3703	PNP break function (NC)	cable
UNDK 30P3703/S14	PNP break function (NC)	connector M12



Sd = 250 mm

- Teach-in or potentiometer
- 0 ... 10 V / 4 ... 20 mA
- output of Teach-in version invertible



UNDK 30 Sd = 250 mm

general data

sensing range sd	30 ... 250 mm
scanning range far limit Sde	30 ... 250 mm
repeatability	< 0,5 mm
resolution	< 0,3 mm
sonic frequency	300 kHz
response time ton	< 50 ms
release time toff	< 50 ms
alignment aid	target display flashing
temperature drift	< 2% of distance to target So

potentiometer

light indicator	LED green
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Teach-in

scanning range close limit Sdc	30 ... 250 mm
light indicator	yellow LED / red LED

electrical data

voltage supply range +Vs	15 ... 30 VDC
output current	< 20 mA
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes

voltage output

current consumption max.	35 mA
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current output

current consumption max.	55 mA
load resistance +Vs max.	< 1100 Ohm
load resistance +Vs min.	< 400 Ohm

mechanical data

type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm

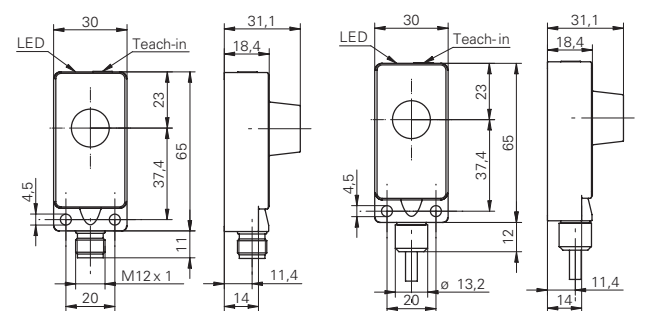
ambient conditions

operating temperature	-10 ... +60 °C
protection class	IP 67

accessories

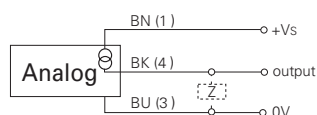
connectors	ESW 33S, ESG 34S
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dimension drawings

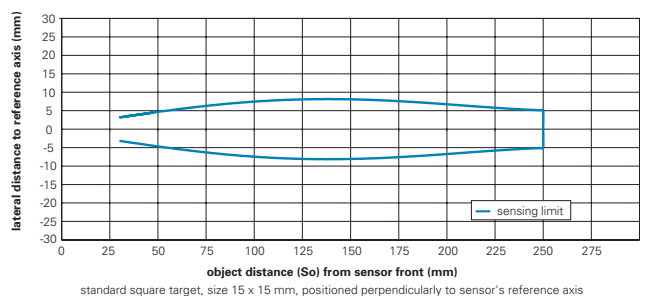


Teach-in = Teach-in or potentiometer

connection diagram

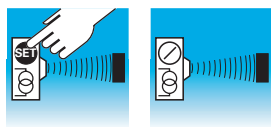


typical sonic cone profile



Ultrasonic analog sensors

order reference	adjustment	output circuit	output signal	connection types
UNDK 30I6113	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	cable
UNDK 30I6113/S14	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	connector M12
UNDK 30U6113	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	cable
UNDK 30U6113/S14	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	connector M12
UNDK 30U9113	potentiometer	voltage output	0 ... 10 VDC	cable
UNDK 30U9113/S14	potentiometer	voltage output	0 ... 10 VDC	connector M12



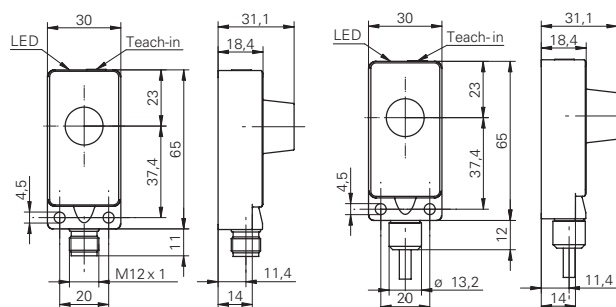
Sd = 400 mm

- Teach-in or potentiometer
- 0 ... 10 V / 4 ... 20 mA
- output of Teach-in version invertible



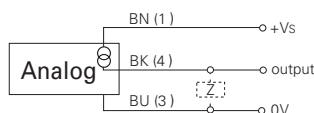
general data	
sensing range sd	60 ... 400 mm
scanning range far limit Sde	60 ... 400 mm
repeatability	< 0,5 mm
resolution	< 0,3 mm
sonic frequency	400 kHz
response time ton	< 60 ms
release time toff	< 60 ms
alignment aid	target display flashing
temperature drift	< 2% of distance to target So
potentiometer	
light indicator	LED green
Teach-in	
scanning range close limit Sdc	60 ... 400 mm
light indicator	yellow LED / red LED
electrical data	
voltage supply range +Vs	15 ... 30 VDC
output current	< 20 mA
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes
voltage output	
current consumption max.	35 mA
current output	
current consumption max.	55 mA
load resistance +Vs max.	< 1100 Ohm
load resistance +Vs min.	< 400 Ohm
mechanical data	
type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm
ambient conditions	
operating temperature	-10 ... +60 °C
protection class	IP 67
accessories	
connectors	ESW 33S, ESG 34S

dimension drawings

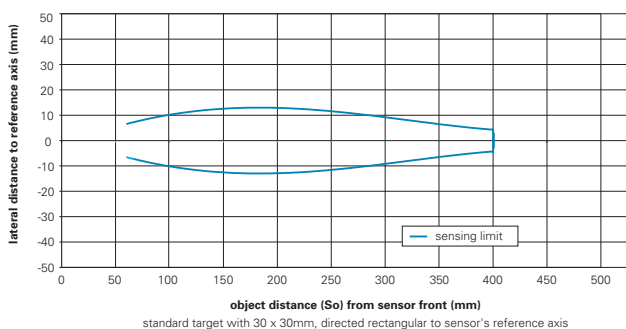


Teach-in = Teach-in or potentiometer

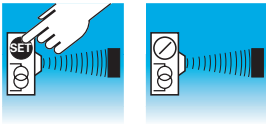
connection diagram



typical sonic cone profile



order reference	adjustment	output circuit	output signal	connection types
UNDK 30I6112	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	cable
UNDK 30I6112/S14	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	connector M12
UNDK 30U6112	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	cable
UNDK 30U6112/S14	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	connector M12
UNDK 30U9112	potentiometer	voltage output	0 ... 10 VDC	cable
UNDK 30U9112/S14	potentiometer	voltage output	0 ... 10 VDC	connector M12



Sd = 1000 mm

- Teach-in or potentiometer
- 0 ... 10 V / 4 ... 20 mA
- output of Teach-in version invertible



UNDK 30 Sd = 1000 mm

general data

sensing range sd	100 ... 1000 mm
scanning range far limit Sde	100 ... 1000 mm
repeatability	< 0,5 mm
resolution	< 0,3 mm
sonic frequency	240 kHz
response time ton	< 80 ms
release time toff	< 80 ms
alignment aid	target display flashing
temperature drift	< 2% of distance to target So

potentiometer

light indicator	LED green
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Teach-in

scanning range close limit Sdc	100 ... 1000 mm
light indicator	yellow LED / red LED

electrical data

voltage supply range +Vs	15 ... 30 VDC
output current	< 20 mA
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes

voltage output

current consumption max.	35 mA
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current output

current consumption max.	55 mA
load resistance +Vs max.	< 1100 Ohm
load resistance +Vs min.	< 400 Ohm

mechanical data

type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm

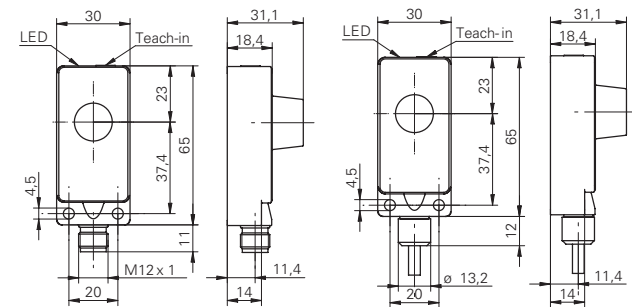
ambient conditions

operating temperature	-10 ... +60 °C
protection class	IP 67

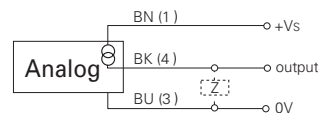
accessories

connectors	ESW 33A, ESG 34A
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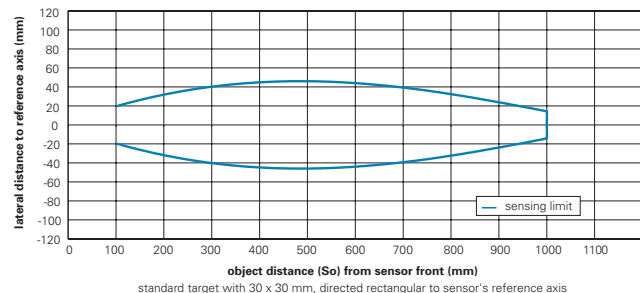
dimension drawings



connection diagram

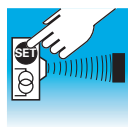


typical sonic cone profile



Ultrasonic analog sensors

order reference	adjustment	output circuit	output signal	connection types
UNDK 30I6103	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	cable
UNDK 30I6103/S14	Teach-in	current output	4 ... 20 mA / 20 ... 4 mA	connector M12
UNDK 30U6103	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	cable
UNDK 30U6103/S14	Teach-in	voltage output	0 ... 10 V / 10 ... 0 V	connector M12
UNDK 30U9103	potentiometer	voltage output	0 ... 10 VDC	cable
UNDK 30U9103/S14	potentiometer	voltage output	0 ... 10 VDC	connector M12



Sd = 2000 mm

- Teach-in
- 0 ... 10 V / 4 ... 20 mA
- output of Teach-in version invertible

general data

sensing range sd	200 ... 2000 mm
scanning range close limit Sdc	200 ... 2000 mm
scanning range far limit Sde	200 ... 2000 mm
repeatability	< 1 mm
resolution	< 0,5 mm
adjustment	Teach-in
sonic frequency	200 kHz
response time ton	< 150 ms
release time toff	< 150 ms
alignment aid	target display flashing
light indicator	yellow LED / red LED
temperature drift	< 2% of distance to target So

electrical data

voltage supply range +Vs	15 ... 30 VDC
output current	< 20 mA
residual ripple	< 10% Vs
short circuit protection	yes
reverse polarity protection	yes

voltage output

current consumption max.	35 mA
output signal	0 ... 10 V / 10 ... 0 V

current output

current consumption max.	55 mA
output signal	4 ... 20 mA / 20 ... 4 mA
load resistance +Vs max.	< 1100 Ohm
load resistance +Vs min.	< 400 Ohm

mechanical data

type	rectangular
housing material	polyester / die-cast zinc
width / diameter	30 mm
height / length	65 mm
depth	31 mm

ambient conditions

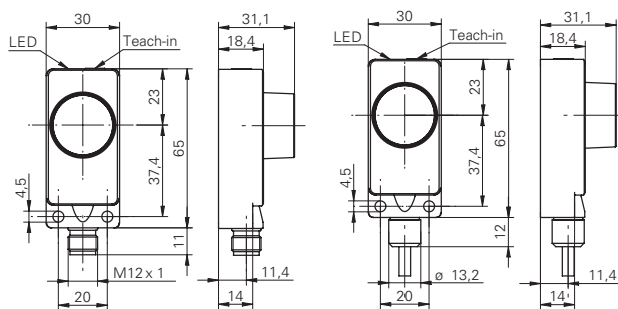
operating temperature	-10 ... +60 °C
protection class	IP 67

accessories

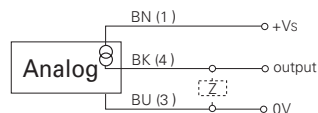
connectors	ESW 33A, ESG 34A
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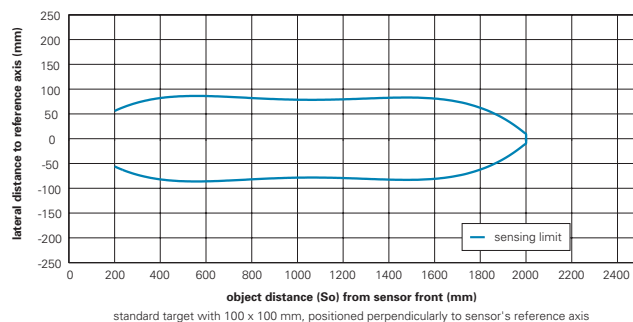
dimension drawings



connection diagram



typical sonic cone profile



order reference	output circuit	connection types
UNDK 30I6104/S14	current output	connector M12
UNDK 30U6104	voltage output	cable
UNDK 30U6104/S14	voltage output	connector M12

UNDK 30 Sd = 2000 mm

Ultrasonic analog sensors