

# Photoelectric sensors OR05

- OR05 ES Through-beam sensors
- OR05 PS Polarised retroreflective sensors
- OR05 RT Diffuse reflective sensors
- OR05 LC Fibre optic controls



**30 x 30 x 15 mm**

**Through-beam sensors**  
**12 m (39.4 ft)**

**30 x 30 x 15 mm**

**Polarised retroreflective sensors**  
**4 m (13.1 ft)**

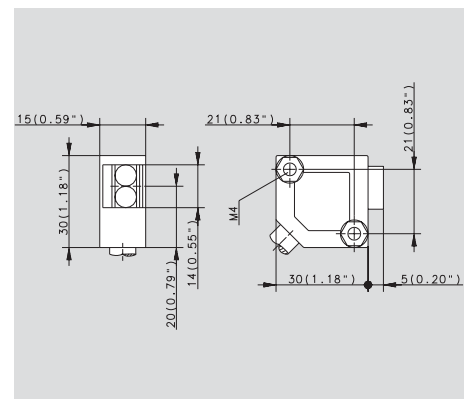
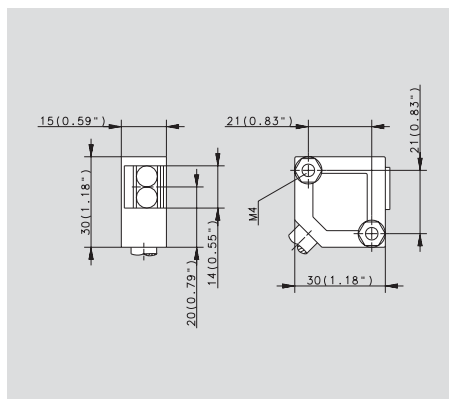
<b>Sensing type</b>	
<b>Sensing distance / range</b>	
Model description	
PNP	
LA	<b>Part number</b>
	Wiring diagram (page/Pos.)
Stock status: Ex stock/Built to order	
Model description	
PNP	
antivalent	<b>Part number</b>
	Wiring diagram (page/Pos.)
Stock status: Ex stock/Built to order	
Model description	
Transmitter	
(Connector)	<b>Part number</b>
	Wiring diagram (page/Pos.)
Stock status: Ex stock/Built to order	
Model description	
Transmitter	
(Cable)	<b>Part number</b>
	Wiring diagram (page/Pos.)
Stock status: Ex stock/Built to order	
Voltage range	
Short-circuit protection	
Output current	max.
Switching frequency	max.
LED for output function/supply voltage/diagnostic	
Adjustable sensitivity	
Timer function	
Diagnostic function	
Temperature range	min./max.
Protection type	
Screw-clamp termination	(page/Pos.)
Cable length (2 m)	Cross section (mm <sup>2</sup> )
Plug	(page/Pos.)
Accessories	(page/Pos.)

-	-	OR05 PS-DHTP-04.0-3LFE <b>655.5975.002</b> 271/6 ●/-
OR05 EE-DATP-12.0-3DE <b>655.1875.003</b> [ 2 ] 271/5 ●/-	OR05 EE-DATP-12.0-SDE <b>655.1875.004</b> [ 1 ] 271/5 ●/-	OR05 PS-DATP-04.0-3DE <b>655.5875.001</b> 271/5 ●/-
-	OR05 SE-DOOS-12.0-SC <b>655.1075.004</b> 271/3 ●/-	-
OR05 SE-DOOS-12.0-3C <b>655.1075.003</b> 271/3 ●/-	-	-
SE: 10-36 V DC	EE: 10-36 V DC	10-36 V DC
-	●	●
-	200 mA	200 mA
-	>1000 Hz	>1000 Hz
-/-/-	●/-/●	●/-/●
-	●	●
-	-	-
●	-	-
-25 °C/+70 °C -13 °F/+158 °F	-25 °C/+70 °C -13 °F/+158 °F	-25 °C/+70 °C -13 °F/+158 °F
IP 67/NEMA 4	IP 67/NEMA 4	IP 67/NEMA 4
-	-	-
3 m/4 x 0.14	-	3 m/4 x 0.14
-	281	-
273/1	273/1	273/1; 274

## Dimensions

All dimensions in mm (inch)

- [ 1 ] Connector
- [ 2 ] Cable



# Photoelectric sensors OR05

- OR05 ES Through-beam sensors
- OR05 PS Polarised retroreflective sensors
- OR05 RT Diffuse reflective sensors
- OR05 LC Fibre optic controls



**30 x 30 x 15 mm**

**30 x 30 x 15 mm**

<b>Sensing type</b>	
<b>Sensing distance / range</b>	
Model description	
PNP	
LA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
PNP	
avalantent	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	

<b>Polarised retroreflective sensors</b>	
<b>4 m (13.1 ft)</b>	
OR05 PS-DHTP-04.0-SLFE	
<b>655.5975.001</b>	
271/6	
●/–	
–	

<b>Diffuse reflective sensors</b>	
<b>1.2 m (3.94 ft)</b>	
OR05 RT-DHTP-01.2-3LFE	
<b>655.7975.004</b>	
271/6	
●/–	
OR05 RT-DATP-01.2-3DE	
<b>655.7875.003</b>	
271/5	
●/–	

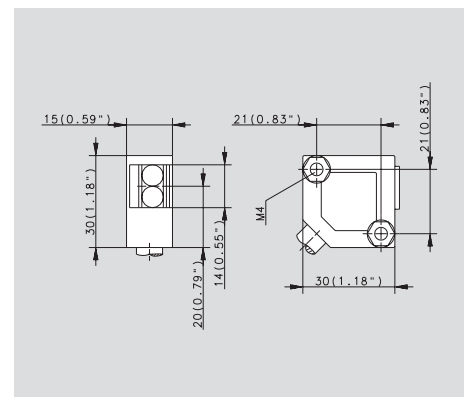
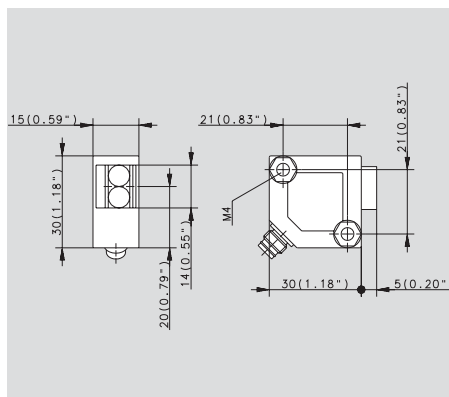
<b>Voltage range</b>	
<b>Short-circuit protection</b>	
Output current	max.
Switching frequency	max.
LED for output function/supply voltage/diagnostic	
Adjustable sensitivity	
Timer function	
Diagnostic function	
Temperature range	min./max.
<b>Protection type</b>	
Screw-clamp termination	(page/Pos.)
Cable length (2 m)	Cross section (mm <sup>2</sup> )
Plug	(page/Pos.)
Accessories	(page/Pos.)

10–36 V DC	
●	
200 mA	
>1000 Hz	
●/–/●	
●	
–	
–	
–25 °C/+70 °C	
–13 °F/+158 °F	
IP 67/NEMA 4	
–	
–	
3 m/4 x 0.14	
281	
273/1, 274	

10–36 V DC	
●	
200 mA	
>1000 Hz	
●/–/●	
●	
–	
–	
–25 °C/+70 °C	
–13 °F/+158 °F	
IP 67/NEMA 4	
–	
–	
3 m/4 x 0.14	
–	
273/1	

## Dimensions

All dimensions in mm (inch)





**30 x 30 x 15 mm**

**Diffuse reflective sensors**  
1.2 m (3.94 ft)

OR05 RT-DHTP-  
01.2-SLFE  
**655.7975.003**

271/6

●/-

-



**30 x 30 x 15 mm**

**Fibre optic controls**  
depending on fibre type

OR05 LC-DHTP-  
0000-3LFE  
**655.2975.004**

271/6

●/-

OR05 LC-DATP-  
0000-3DE

**655.2875.002**

271/5

●/-



**30 x 30 x 15 mm**

**Fibre optic controls**  
depending on fibre type

OR05 LC-DHTP-  
0000-SLFE  
**655.2975.003**

271/6

●/-

-

10-36 V DC

●

200 mA

>1000 Hz

●/-●

●

-

-

-25 °C/+70 °C

-13 °F/+158 °F

IP 67/NEMA 4

-

-

281

273/1

10-36 V DC

●

200 mA

>250 Hz

●/-●

●

-

●

-25 °C/+70 °C

-13 °F/+158 °F

IP 67/NEMA 4

-

3 m/4 x 0.14

-

275

10-36 V DC

●

200 mA

>250 Hz

●/-●

●

-

●

-25 °C/+70 °C

-13 °F/+158 °F

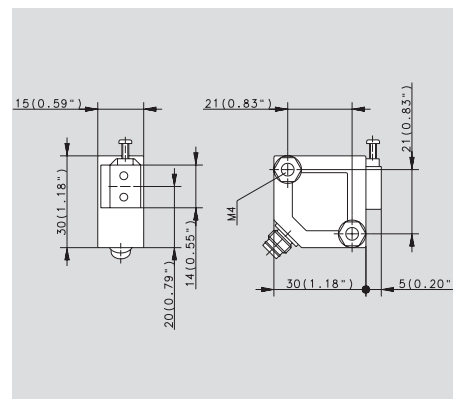
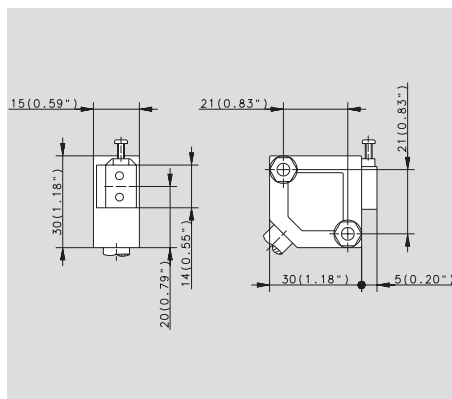
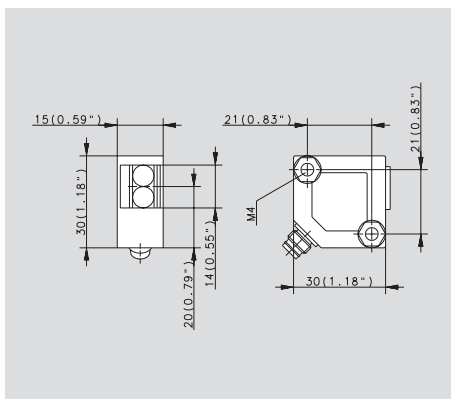
IP 67/NEMA 4

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281

275



# Photoelectric sensors OR12

- OR12 ES Through-beam sensors
- OR12 ES Through-beam sensors with reduced interior beam
- OR12 RS Retroreflective sensors
- OR12 RT Diffuse reflective sensors



12 x 12 x 55 mm

12 x 12 x 55 mm

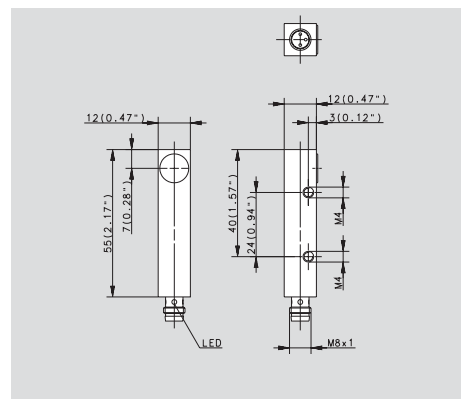
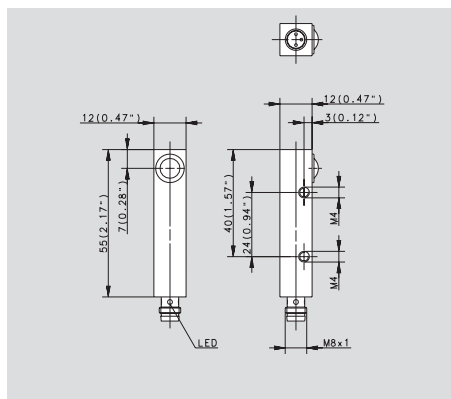
<b>Sensing type</b>	
<b>Sensing distance / range</b>	
Model description	
PNP	
LA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
PNP	
DA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
[1] NPN	
LA	<b>Part number</b>
[2] Transmitter	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
NPN	
DA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Voltage range	
Short-circuit protection	
Output current	max.
Switching frequency	max.
LED for output function/supply voltage/diagnostic	
Adjustable sensitivity	
Timer function	
Diagnostic function	
Temperature range	min./max.
Protection type	
Screw-clamp termination	(page/Pos.)
Cable length (2 m)	Cross section (mm <sup>2</sup> )
Plug	(page/Pos.)
Accessories	(page/Pos.)

<b>Through-beam sensors</b>		<b>Through-beam sensors</b>	
<b>6 m (19.7 ft)<sup>1)</sup></b>		<b>1 m (3.28 ft)</b>	
Model description		Model description	
–	OR12-EE-DHTP-06.0-SL	–	OR12 EE-DHTP-01.0-SL
	<b>655.1955.001</b>		<b>655.1955.002</b>
	Wiring diagram (page/pos.)		Wiring diagram (page/pos.)
	271/4		271/4
	●/–		●/–
Model description		Model description	
OR12 EE-DDTP-06.0-SL	OR12-EE-DDTP-06.0-SLE	OR12 EE-DDTP-01.0-SL	OR12 EE-DDTP-01.0-SLE
<b>655.1755.001</b>	<b>655.1755.003</b>	<b>655.1755.002</b>	<b>655.1755.004<sup>2)</sup></b>
Wiring diagram (page/pos.)	Wiring diagram (page/pos.)	Wiring diagram (page/pos.)	Wiring diagram (page/pos.)
271/4	271/4	271/4	271/4
●/–	–/●	●/–	–/●
Model description		Model description	
OR12 SE-DOOS-06.0-SVC	[2] –	OR12 SE-DOOS-01.0-SVC	[2] –
<b>655.1055.002</b>		<b>655.1055.003</b>	
Wiring diagram (page/pos.)		Wiring diagram (page/pos.)	
271/3		271/3	
●/–		●/–	
Model description		Model description	
–	OR12-EE-DDTN-06.0-SL	–	OR12 EE-DDTN-01.0-SL
	<b>655.1155.001</b>		<b>655.1155.002</b>
	Wiring diagram (page/pos.)		Wiring diagram (page/pos.)
	271/7		271/7
	–/●		–/●
SE: 10–36 V DC	EE: 10–36 V DC	SE: 10–36 V DC	EE: 10–36 V DC
–	●	–	●
–	200 mA	–	200 mA
–	>100 Hz	–	>100 Hz
–/●/–	●/–/–	–/●/–	●/–/–
–	–	–	–
–	–	–	–
●	–	●	–
–5 °C/+70 °C	–5 °C/+70 °C	–5 °C/+70 °C	–5 °C/+70 °C
+23 °F/+158 °F	+23 °F/+158 °F	+23 °F/+158 °F	+23 °F/+158 °F
IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
–	–	–	–
–	–	–	–
280/1, 2; 282	280/1, 2; 282	280/1, 2; 282	280/1, 2; 282
–	273/5	273/5	273/5

## Dimensions

- <sup>1)</sup> Range 10 m and 60 m LASER on request
- <sup>2)</sup> Adjustable sensitivity

All dimensions in mm (inch)





**12 x 12 x 65 mm**

**Retroreflective sensors**

**4 m (13.1 ft)**

OR12 RS-DHTP-04.0-SL

**655.4955.001**

271/4

-/●

OR12 RS-DDTP-04.0-SL

**655.4755.001**

271/4

●/-

OR12 RS-DHTN-04.0-SL [1]

**655.4355.001**

271/7

-/●

OR12 RS-DDTN-04.0-SL

**655.4155.001**

271/7

-/●

10-36 V DC

●

200 mA

>100 Hz

●/-/-

-

-

-

-5 °C/+70 °C

+23 °F/+158 °F

IP 65/NEMA 12

-

-

280/1, 2; 282

273/5, 274



**12 x 12 x 60 mm**

**Diffuse reflective sensors**

**200 mm (7.87")**

OR12 RT-DHTP-0200-SLE

**655.7955.001**

271/4

●/-

OR12 RT-DDTP-0200-SLE

**655.7755.001**

271/4

-/●

OR12 RT-DHTN-0200-SLE [1]

**655.7355.001**

271/7

-/●

OR12 RT-DDTN-0200-SLE

**655.7155.001**

271/7

-/●

10-36 V DC

●

200 mA

>100 Hz

●/-/-

●

-

-

-5 °C/+70 °C

+23 °F/+158 °F

IP 65/NEMA 12

-

-

280/1, 2; 282

273/5



**12 x 12 x 65 mm**

**Diffuse reflective sensors**

**1.2 m (3.94 ft)**

OR12 RT-DHTP-01.2-SLE

**655.7955.002**

271/4

●/-

OR12 RT-DDTP-01.2-SLE

**655.7755.002**

271/4

-/●

OR12 RT-DHTN-01.2-SLE [1]

**655.7355.002**

271/7

-/●

OR12 RT-DDTN-01.2-SLE

**655.7155.002**

271/7

-/●

10-36 V DC

●

200 mA

>100 Hz

●/-/-

●

-

-

-5 °C/+70 °C

+23 °F/+158 °F

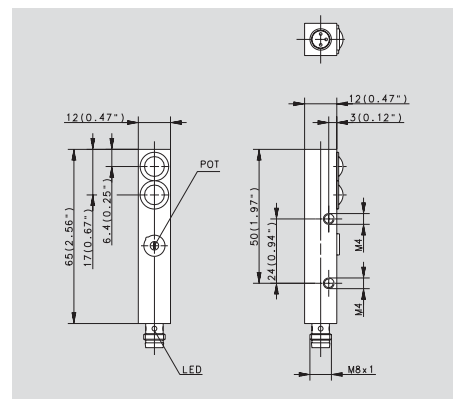
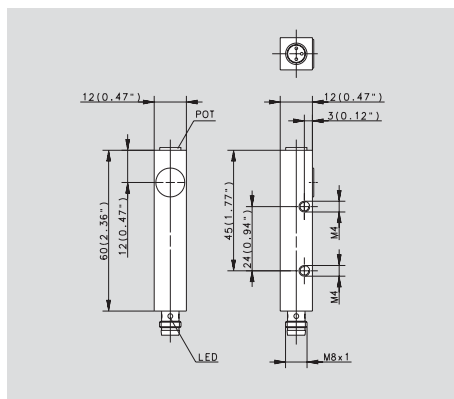
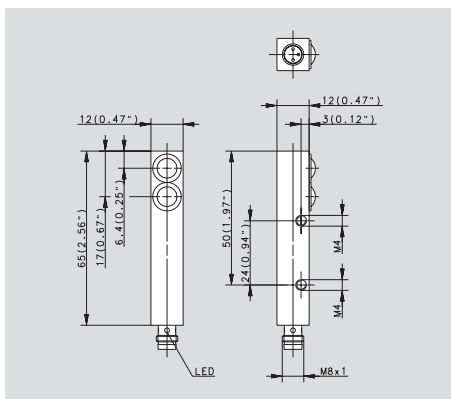
IP 65/NEMA 12

-

-

280/1, 2; 282

273/5



# Photoelectric sensors OR12

OR12 ES Laser-through-beam sensors  
OR12 FF Convergent beam sensor  
(Fixed-Focus)



12 x 12 x 55 mm

12 x 12 x 65 mm

<b>Sensing type</b>	
Sensing distance / range	
Model description	
PNP	
DA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
PNP	
LA	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
Transmitter	
	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	

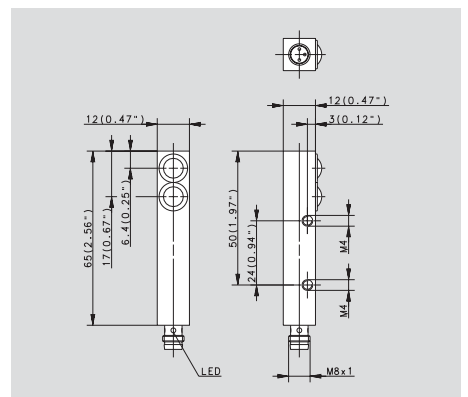
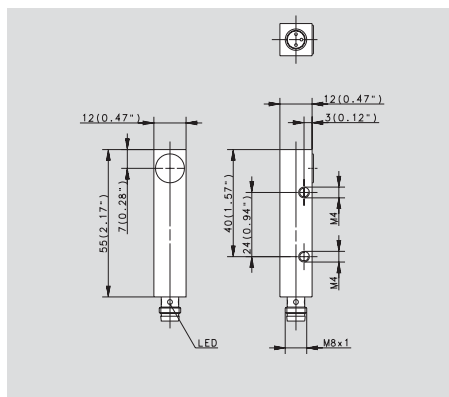
<b>Laser-through-beam sensors</b>		<b>Convergent beam sensor (Fixed-Focus)</b>
60 m (197 ft)		50 mm
Model description		
-	OR12-EE-DDTG-60.0-SL	-
	<b>655.1755.005</b>	
	-	
	●/-	
Model description		OR12 FF-DHTP-0050-SL
		<b>655.8955.001</b>
		271/4
		●/-
Model description		
OR12 SE-DOOS-60.0-SVC		
<b>655.1055.004</b>		
-		
	●/-	

Voltage range		
Short-circuit protection		
Output current	max.	
Switching frequency	max.	
LED for output function/supply voltage/diagnostic		
Adjustable sensitivity		
Timer function		
Diagnostic function		
Temperature range	min./max.	
Protection type		
Screw-clamp termination	(page/Pos.)	
Cable length (2 m)	Cross section	(mm <sup>2</sup> )
Plug	(page/Pos.)	
Accessories	(page/Pos.)	

SE: 10–36 V DC	EE: 10–36 V DC	10–36 V DC
-	●	●
-	55 mA	200 mA
-	>1000 Hz	>100 Hz
-/●/-	●/-/-	●/-/-
-	-	-
-	-	-
●	-	-
-10 °C/+50 °C	-10 °C/+50 °C	-5 °C/+70 °C
+14 °F/+122 °F	+14 °F/+122 °F	-
IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
-	-	-
-	-	-
280/1, 2; 282	280/1, 2; 282	280/1, 2; 282
273/5	273/5	273/5

## Dimensions

All dimensions in mm (inch)



# Photoelectric sensors OR17

## Multinorm

OR17 ES Through-beam sensors  
OR17 RT Diffuse reflective sensors  
OR17 PS Polarised retroreflective sensors



120 x 41.5 x 41.5 mm

Through-beam sensors  
25 m (82.0 ft)

120 x 41.5 x 41.5 mm

Diffuse reflective sensors  
500 mm (19.7")

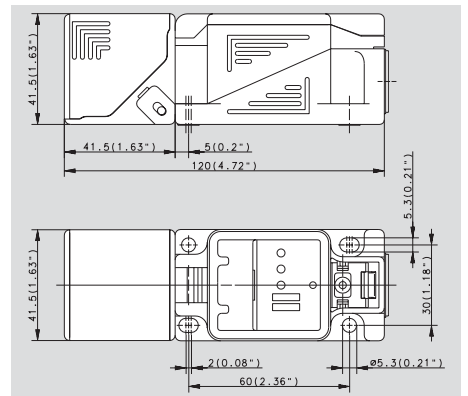
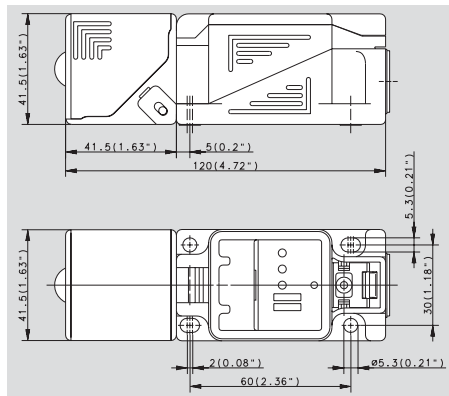
<b>Sensing type</b>	
<b>Sensing distance / range</b>	
Model description	
PNP/NPN <sup>1)</sup>	
Changeover switch	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
PNP selectable	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
NPN selectable	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
Transmitter	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Voltage range	
Short-circuit protection	
Output current	max.
Switching frequency	max.
LED for output function/supply voltage/diagnostic	
Adjustable sensitivity	
Timer function	
Diagnostic function	
Temperature range	min./max.
Protection type	
Screw-clamp termination	(page/Pos.)
Cable length (2 m)	Cross section (mm <sup>2</sup> )
Plug	(page/Pos.)
Accessories	(page/Pos.)

-	OR17 EE-DPTU-25.0-AHE	OR17 RT-DPTU-0500-AHE	-
-	<b>655.1860.001</b>	<b>655.7060.001</b>	-
-	272/9	272/9	-
-	-/●	●/-	-
-	-	-	OR17 RT-DPTP-0500-AGEC
-	-	-	<b>655.7860.001</b>
-	-	-	272/4
-	-	-	●/-
-	-	-	-
OR17 SE-DOOS-25.0-AVC	-	-	-
<b>655.1060.001</b>	-	-	-
272/4	-	-	-
-/●	-	-	-
SE: 10-60 V DC	EE: 10-60 V DC	10-60 V DC	10-60 V DC
-	●	●	●
-	400 mA	400 mA	400 mA/50 mA <sup>2)</sup>
-	>50 Hz	>50 Hz	>50 Hz
-/●/-	●/●/-	●/●/-	●/●/● <sup>3)</sup>
-	●	●	●
-	-	-	-
●	-	-	●
0 °C/+70 °C	0 °C/+70 °C	-5 °C/+70 °C	-5 °C/+70 °C
+32 °F/+158 °F	+32 °F/+158 °F	+23 °F/+158 °F	+23 °F/+158 °F
IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
272/4	272/9	272/9	272/4
-	-	-	-
-	-	-	-
-	-	-	-

## Dimensions

- <sup>1)</sup> Two integrated DIP switches allow to select between light or dark activation (LA/DA) and between NPN or PNP
- <sup>2)</sup> 50 mA output current for activated diagnostic signal
- <sup>3)</sup> Red LED flashes in unsafe operation mode (e.g. maladjustment); diagnosis output (see 2) is static

All dimensions in mm (inch)





**120 x 41.5 x 41.5 mm**

**Diffuse reflective sensors**

**2 m (6.56 ft)**

OR17 RT-DPTU-  
02.0-AHE  
**655.7060.002**  
272/9

●/-

- OR17 RT-DPTP-  
02.0-AGEC  
**655.7860.002**  
272/4  
●/-

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**120 x 41.5 x 41.5 mm**

**Polarised retroreflective sensors**

**8 m (26.2 ft)**

OR17 PS-DPTU-  
08.0-AHE  
**655.5060.001**  
272/9

●/-

- OR17 PS-DPTP-  
08.0-AGEC  
**655.5860.001**  
272/4  
-/●

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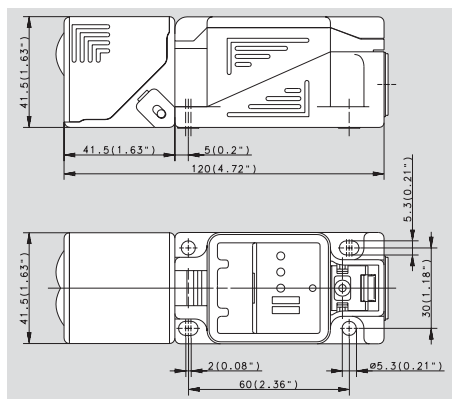
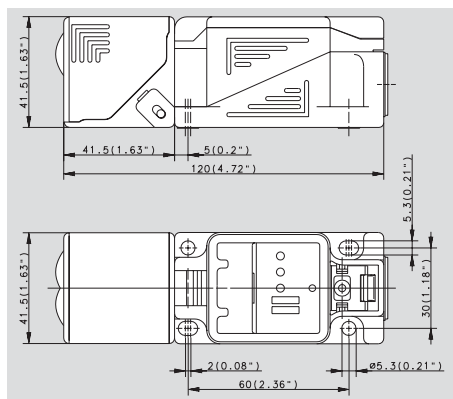
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# Photoelectric sensors OR20

## DC types

- OR20 ES Through-beam sensors
- OR20 RS Retroreflective sensors
- OR20 PS Polarised retroreflective sensors
- OR20 RT Diffuse reflective sensors
- OR20 RH Diffuse reflective sensors with background suppression



**88 x 63 x 24 mm**

**Through-beam sensors**  
20 m (65.6 ft)

**88 x 63 x 24 mm**

**Retroreflective sensors**  
8 m (26.2 ft)

Sensing type	
Sensing distance / range	
Model description	
PNP selectable	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
NPN selectable	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	
Model description	
Transmitter	<b>Part number</b>
	Wiring diagram (page/pos.)
Stock status: Ex stock/Built to order	

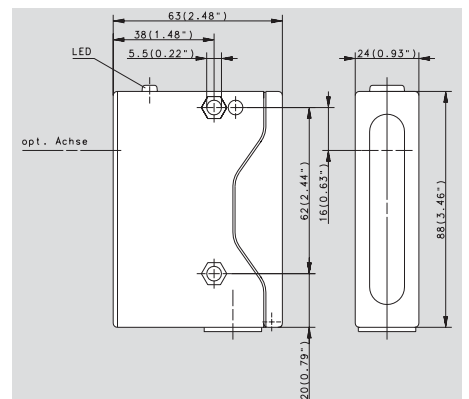
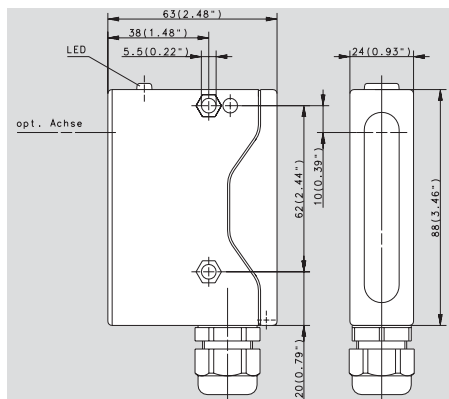
–	OR20 EE-DPTP-20.0-ALET	OR20 RS-DPTP-08.0-ALET
	<b>655.1886.003</b>	<b>655.4886.001</b>
	272/5	272/5
	●/–	●/–
–	–	–
OR20 SE-DOOS-20.0-AV	–	–
<b>655.1086.003</b>		
272/1		
●/–		

Stock status: Ex stock/Built to order		
Voltage range		
Short-circuit protection		
Output current	max.	
Switching frequency	max.	
LED for output function/supply voltage/diagnostic		
Adjustable sensitivity		
Timer function		
Diagnostic function		
Temperature range	min./max.	
Protection type		
Screw-clamp termination	(page/Pos.)	
Cable length (2 m)	Cross section (mm <sup>2</sup> )	
Plug (page/Pos.)		
Accessories (page/Pos.)		

SE: 10–36 V DC	EE: 10–36 V DC	10–36 V DC
–	●	●
–	200 mA	200 mA
–	>100 Hz	>100 Hz
–/●/–	●/–/–	●/–/–
–	●	●
–	●	●
–	–	–
–20 °C/+70 °C	–20 °C/+70 °C	–20 °C/+70 °C
–4 °F/+158 °F	–4 °F/+158 °F	–4 °F/+158 °F
IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
272/1	272/5	272/5
–	–	–
–	–	–
273/2, 3	273/2, 3	273/2, 3; 274

## Dimensions

All dimensions in mm (inch)





**88 x 63 x 24 mm**

**Polarised retroreflective sensors**  
6 m (19.7 ft)

OR20 PS-DPTP-  
06.0-ALET  
**655.5886.001**  
272/5  
●/-

-



**88 x 63 x 24 mm**

**Diffuse reflective sensors**  
600 mm (1.97 ft)      1.5 m (4.92 ft)

OR20 RT-DPTP-  
0600-ALET  
**655.7886.001**  
272/5  
-/●

-

OR20 RT-DPTP-  
01.5-ALET  
**655.7886.003**  
272/5  
●/-

-



**88 x 63 x 24 mm**

**Background suppression**  
400 mm (1.31 ft)

OR20 RH-DPTP-  
0400-ALET  
**655.8886.002**  
272/5  
-/●

-

10–36 V DC

●  
200 mA  
>100 Hz

●/-/-  
●  
●

-20 °C/+70 °C  
-4 °F/+158 °F

IP 65/NEMA 12  
272/5

-  
273/2, 3; 274

10–36 V DC

●  
200 mA  
>100 Hz

●/-/-  
●  
●

-20 °C/+70 °C  
-4 °F/+158 °F

IP 65/NEMA 12  
272/5

-  
273/2, 3

10–36 V DC

●  
200 mA  
>100 Hz

●/-/-  
●  
●

-20 °C/+70 °C  
-4 °F/+158 °F

IP 65/NEMA 12  
272/5

-  
273/2, 3

10–36 V DC

●  
200 mA  
>100 Hz

●/-/-  
●  
●

-20 °C/+70 °C  
-4 °F/+158 °F

IP 65/NEMA 12  
272/5

-  
273/2, 3

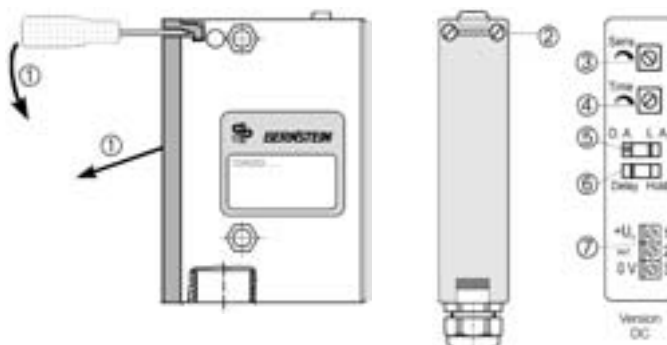
### Notes on operation of OR20 series (DC types)

#### Housing types:

- ① Snap-cover housing  
(to be opened with screwdriver)
- ② Screw-cap housing  
(with M 16-cable gland)

#### Operating elements

- ③ Sensitivity potentiometer
- ④ Time potentiometer
- ⑤ Operation-mode micro switch
- ⑥ Delay-type micro switch
- ⑦ Connection terminals



# Photoelectric sensors OR20

## AC/DC types

- OR20 ES Through-beam sensors
- OR20 RS Retroreflective sensors
- OR20 PS Polarised retroreflective sensors
- OR20 RT Diffuse reflective sensors
- OR20 RH Diffuse reflective sensors with background suppression



**88 x 63 x 24 mm**

**Through-beam sensors**  
20 m (66.2 ft)

**88 x 63 x 24 mm**

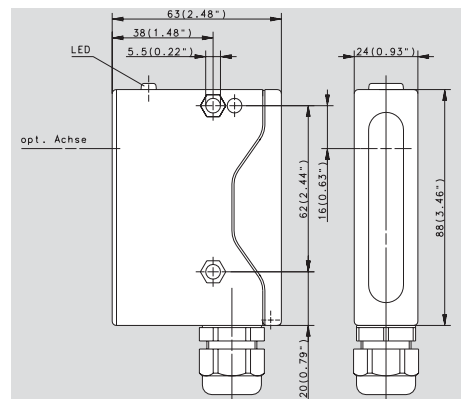
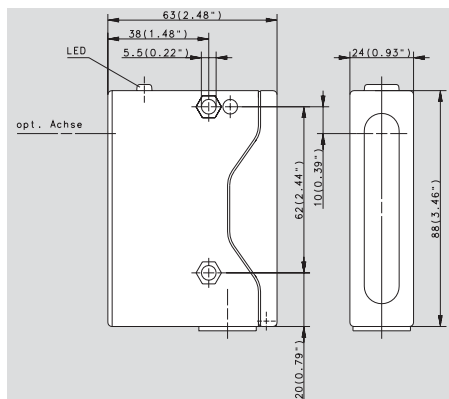
**Retroreflective sensors**  
8 m (26.2 ft)

Sensing type	
Sensing distance / range	
Model description	
<b>Relay output</b>	<b>Part number</b>
– Contacts: change-over (1 x)	Wiring diagram (page/pos.)
– Switching current 3 A	Stor./deliv.: on requ.
– Connection compartment cover with quick snap release	Model description
	<b>Part number</b>
	Wiring diagram (page/pos.)
	Stor./deliv.: on requ.
Model description	
<b>Relay output</b>	<b>Part number</b>
– Contacts: change-over (1 x)	Wiring diagram (page/pos.)
– Switching current 3 A	Stor./deliv.: on requ.
– Connection compartment cover with screws	Model description
– Cable gland	<b>Part number</b>
	Wiring diagram (page/pos.)
	Stor./deliv.: on requ.
Voltage range	
Short-circuit protection	
Output current	max.
Switching frequency	max.
LED for output function/supply voltage/diagnostic	
Adjustable sensitivity	
Timer function	
Diagnostic function	
Temperature range	min./max.
Protection type	
Screw-clamp termination	(page/Pos.)
Cable length (2 m)	Cross section (mm <sup>2</sup> )
Plug	(page/Pos.)
Accessories	(page/Pos.)

OR20 SE-MOOS-20.0-AV	–	–
<b>655.1086.001</b>		
272/1		
●/–		
–	OR20 EE-MAR5-20.0-ALET	OR20 RS-MAR5-08.0-ALET
	<b>655.1686.003</b>	<b>655.4686.001</b>
	272/3	272/3
	●/–	●/–
OR20 SE-MOOS-20.0-AV	–	–
<b>655.1086.002</b>		
272/1		
–/●		
–	OR20 EE-MAR5-20.0-ALET	OR20 RS-MAR5-08.0-ALET
	<b>655.1686.004</b>	<b>655.4686.002</b>
	272/3	272/3
	–/●	–/●
SE: 12–265 V AC/DC	EE: 12–265 V AC/DC	12–265 V AC/DC
–	–	–
–	3 A	3 A
–	>50 Hz	>50 Hz
–/●/–	●/–/–	●/–/–
–	●	●
–	●	●
–	–	–
–20 °C/+70 °C	–20 °C/+70 °C	–20 °C/+70 °C
–4 °F/+158 °F	–4 °F/+158 °F	–4 °F/+158 °F
IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
272/1	272/3	272/3
–	–	–
–	–	–
273/2, 3	273/2, 3	273/2, 3; 274

## Dimensions

All dimensions in mm (inch)





**88 x 63 x 24 mm**

**Polarised retroreflective sensors**  
6 m (19.7 ft)



**88 x 63 x 24 mm**

**Diffuse reflective sensors**  
600 mm (1.97 ft)      1.5 m (4.92 ft)



**88 x 63 x 24 mm**

**Background suppression**  
400 mm (1.31 ft)

OR20 PS-MAR5-  
06.0-ALET  
**655.5686.001**  
272/3  
●/-

OR20 RT-MAR5-  
0600-ALET  
**655.7686.001**  
272/3  
●/-

OR20 RT-MAR5-  
01.5-ALET  
**655.7686.003**  
272/3  
●/-

OR20 RH-MAR5-  
0400-ALET  
**655.8686.002**  
272/3  
●/-

OR20 PS-MAR5-  
06.0-ALET  
**655.5686.002**  
272/3  
●/-

-

OR20 RT-MAR5-  
01.5-ALET  
**655.7686.004**  
272/3  
-/●

-

12-265 V AC/DC  
-  
3 A  
>50 Hz  
●/-/-  
●  
●

12-265 V AC/DC  
-  
3 A  
>50 Hz  
●/-/-  
●  
●

12-265 V AC/DC  
-  
3 A  
>50 Hz  
●/-/-  
●  
●

12-265 V AC/DC  
-  
3 A  
>50 Hz  
●/-/-  
●  
●

-20 °C/+70 °C  
-4 °F/+158 °F  
IP 65/NEMA 12  
272/3

-20 °C/+70 °C  
-4 °F/+158 °F  
IP 65/NEMA 12  
272/3

-20 °C/+70 °C  
-4 °F/+158 °F  
IP 65/NEMA 12  
272/3

-20 °C/+70 °C  
-4 °F/+158 °F  
IP 65/NEMA 12  
272/3

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273/2, 3; 274

-  
273/2, 3

-  
273/2, 3

-  
273/2, 3

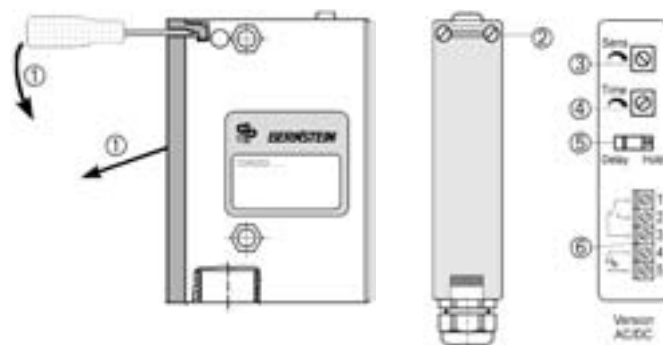
**Notes on operation of OR20 series (AC/DC types)**

**Housing types:**

- ① Snap-cover housing (to be opened with screwdriver)
- ② Screw-cap housing (with M 16-cable gland)

**Operating elements**

- ③ Sensitivity potentiometer
- ④ Time potentiometer
- ⑤ Delay-type micro switch
- ⑥ Connection terminals



# Photoelectric sensors OR90

AC/DC types  
AC types  
DC types

OR90 ES Through-beam sensors  
OR90 RS Retroreflective sensors



85 x 50 x 23 mm

85 x 50 x 23 mm

Sensing type		Through-beam sensors	Retroreflective sensors
Sensing distance / range		12 m (39.4 ft)	8 m (26.2 ft)
Model description		OR90 EE-AAR5-12.0-4L	OR90 RS-MAR5-08.0-CL
Relay output		655.1696.001	655.4696.001
- Contacts: changeover (1 x)		272/8	272/8
- Switching current 3 A		●/–	●/–
Wiring diagram (page/pos.)			
Stock status: Ex stock/Built to order			
Model description		OR90 SE-AOOS-12.0-4V	–
Transmitter		655.1096.002	
Wiring diagram (page/pos.)		271/2	
Stock status: Ex stock/Built to order		–/●	
Model description		–	–
PNP antivalent			
Wiring diagram (page/pos.)			
Stock status: Ex stock/Built to order			
Model description		–	–
NPN antivalent			
Wiring diagram (page/pos.)			
Stock status: Ex stock/Built to order			
Voltage range		SE: 185–242 V AC	EE: 185–242 V AC
Short-circuit protection		–	–
Output current		–	3 A
Switching frequency		–	>50 Hz
LED for output function/supply voltage/diagnostic		–/●/–	●/–/–
Adjustable sensitivity		–	–
Timer function		–	–
Diagnostic function		–	–
Temperature range		0 °C/+70 °C	0 °C/+70 °C
		+32 °F/+158 °F	–20 °C/+70 °C
		IP 65/NEMA 12	–4 °F/+158 °F
Protection type		IP 65/NEMA 12	IP 65/NEMA 12
Screw-clamp termination		–	–
Cable length (2 m)		4 m/2 x 0.5	5 x 0.5
Cross section (mm <sup>2</sup> )		4 m/5 x 0.5	–
Plug		–	–
Accessories		273/4	273/4; 274

## Dimensions

All dimensions in mm (inch)

