

# Sensors and Systems

Edition 3.0



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**pf** PEPPERL+FUCHS



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 30 mA
Rated operational current	100 mA , short-circuit/overload protected
Input type	1 program input
LED yellow	indication of the switching state flashing: program function object detected
LED red	solid red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Properties

- Up to 400 mm sensing range
- DC, switching output
- Ø12 mm cylindrical housing
- Connector version

### Your Benefit

- Smallest diameter cylindrical model
- Teach-wire or UB-PROG2 pushbutton configurable

#### Model Number

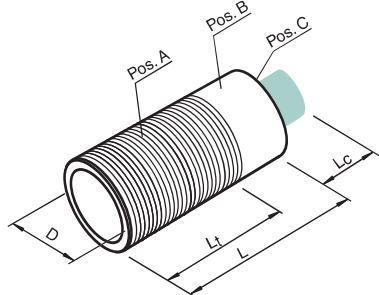
		UB120-12GM-E4-V1	UB120-12GM-E5-V1	UB200-12GM-E4-V1	UB200-12GM-E5-V1	UB400-12GM-E4-V1	UB400-12GM-E5-V1
Sensing range	green = preferred type						
	15 ... 120 mm	●	●				
	15 ... 200 mm			●	●		
Transducer frequency	30 ... 400 mm					●	●
	approx. 850 kHz	●	●				
	approx. 400 kHz			●	●		
Output type	approx. 310 kHz					●	●
	1 switch output NPN Normally open/ closed , programmable	●		●		●	
	1 switch output PNP Normally open/ closed , programmable		●		●		●
Switching frequency	≤ 52 Hz	●	●				
	≤ 13 Hz			●	●		
	≤ 8 Hz					●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●

#### Dimensions

Length L [mm]	64
Diameter D [mm]	12
Thread length l <sub>t</sub> [mm]	41
Connector area l <sub>c</sub> [mm]	6
LED position	Pos. B



### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

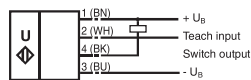
<b>UB-PROG2</b>	Programming unit
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>BF 12</b>	Mounting flange, 12 mm
<b>BF 12-F</b>	Mounting flange with dead stop, 12 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>UVW90-M12</b>	Ultrasonic -deflector

### Electrical Connection



UB200-12GM-E4-V1  
UB400-12GM-E4-V1  
UB120-12GM-E4-V1

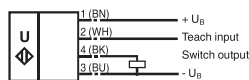
Standard symbol/Connections:  
(version E4, npn)



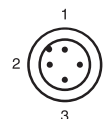
Core colours in accordance with EN 60947-5-2.

UB200-12GM-E5-V1  
UB400-12GM-E5-V1  
UB120-12GM-E5-V1

Standard symbol/Connections:  
(version E5, pnp)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Date of issue 04/08/2015



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

No-load supply current	≤ 30 mA
Resolution	0.17 mm
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 program input
LED yellow	solid yellow: object in the evaluation range yellow, flashing: program function, object detected
LED red	solid red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1, 4-pin



### Properties

- Up to 400 mm sensing range
- DC, analog output
- Ø12 mm cylindrical housing
- Connector version

### Your Benefit

- Smallest diameter cylindrical model
- Teach-wire or UB-PROG2 pushbutton configurable

#### Model Number

	green = preferred type					
Sensing range	15 ... 120 mm	●	●			
	15 ... 200 mm			●	●	
	30 ... 400 mm					● ●
Transducer frequency	approx. 850 kHz	●	●			
	approx. 400 kHz			●	●	
	approx. 310 kHz					● ●
Operating voltage	10 ... 30 V DC, ripple 10 % <sub>SS</sub>	●		●		● ●
	15 ... 30 V DC, ripple 10 % <sub>SS</sub>		●		●	● ●
Output type	1 analog output 0 ... 10 V		●		●	● ●
	1 analog output 4 ... 20 mA	●		●		

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●

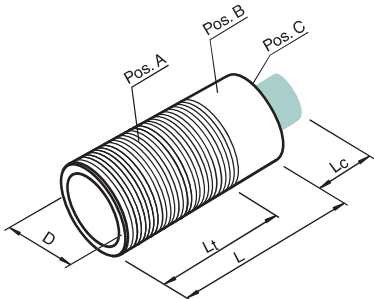
#### Dimensions

Length L [mm]	64
Diameter D [mm]	12
Thread length l <sub>t</sub> [mm]	41
Connector area l <sub>c</sub> [mm]	6
LED position	Pos. B

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>BF 12</b>	Mounting flange, 12 mm
<b>BF 12-F</b>	Mounting flange with dead stop, 12 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>UVW90-M12</b>	Ultrasonic -deflector

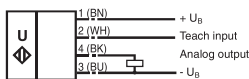


### Electrical Connection



UB200-12GM-U-V1  
UB400-12GM-U-V1  
UB120-12GM-U-V1

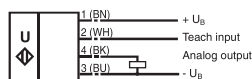
Standard symbol/Connections:  
(version U)



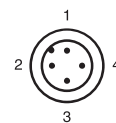
Core colors in accordance with EN 60947-5-2.

UB200-12GM-I-V1  
UB400-12GM-I-V1  
UB120-12GM-I-V1

Standard symbol/Connections:  
(version I)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

<b>Model Number</b>	<b>UBC250-12GM-E5-V1</b>
Sensing range	30 ... 250 mm
Transducer frequency	approx. 310 kHz
Operating voltage	10 ... 30 V DC, ripple 10 % <sub>SS</sub>
No-load supply current	≤ 30 mA
Output type	1 switch output PNP Normally open/closed, programmable
Rated operational current	100 mA, short-circuit/overload protected
Switching frequency	≤ 8 Hz
Input type	1 program input
Ambient temperature	0 ... 70 °C (32 ... 158 °F)
<b>Material</b>	
Housing	Stainless steel 1.4435 / AISI 316L O-ring for cover sealing: EPDM
Transducer	PTFE (diaphragm surface)
Protection degree	IP68 / IP69K
Connection type	Device connector M12 x 1, 4-pin



### Properties

- 250 mm sensing range
- DC, switching output
- Ø12 mm cylindrical housing
- Connector version

### Your Benefit

- PTFE-coated transducer and 316L stainless steel barrel for maximum chemical resistance
- Teach-wire or UB-PROG2 pushbutton configurable

### Approvals and Certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose

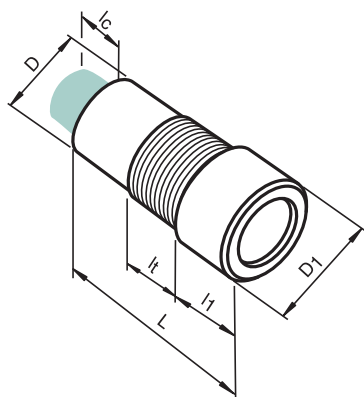
### Dimensions

Length L [mm]	65
Diameter D [mm]	12
Cap diameter D <sub>1</sub> [mm]	15
Thread length l <sub>t</sub> [mm]	41
Cap length l <sub>1</sub> [mm]	12
Connector area l <sub>c</sub> [mm]	7.5

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>BF 12</b>	Mounting flange, 12 mm
<b>BF 12-F</b>	Mounting flange with dead stop, 12 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

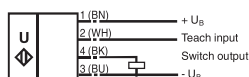


### Electrical Connection

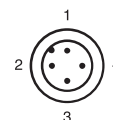


UBC250-12GM-E5-V1

Standard symbol/Connections:  
(version E5, pnp)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Date of issue 04/08/2015





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

<b>Model Number</b>	<b>UBH60/30-12GM-U-V1</b>
Measurement range	object thickness (d) : 0 ... 30 mm
Transducer frequency	approx. 850 kHz
Operating voltage	15 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 30 mA
Output type	1 analog output 0 ... 10 V
Resolution	0.17 mm
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 function input
LED yellow	solid: object in evaluation range
LED red	solid red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Approvals and Certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose

### Dimensions

Length L [mm]	64
Diameter D [mm]	12
Thread length l <sub>t</sub> [mm]	41
Connector area l <sub>c</sub> [mm]	6
LED position	Pos. B

### Accessories This and more accessories can be found in chapter 3.5 from page 673 See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

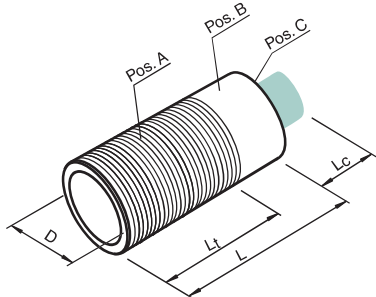
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>BF 12</b>	Mounting flange, 12 mm
<b>BF 12-F</b>	Mounting flange with dead stop, 12 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

### Properties

- 0 ... 30 mm high accuracy height measurement
- DC, analog output
- Ø12 mm cylindrical housing
- Connector version

### Your Benefit

- High-resolution thickness measurement
- Temperature compensation activated upon power-up

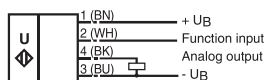


### Electrical Connection

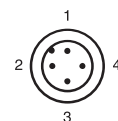


UBH60/30-12GM-U-V1

Standard symbol/Connections:



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 20 mA
Rated operational current	200 mA , short-circuit/overload protected
Input type	1 program input
LED green	Power on
LED yellow	indication of the switching state flashing: program function object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Properties

- 300 mm and 800 mm sensing range versions
- DC, switching output
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Short barrel length for space-restricted mounting
- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

#### Model Number

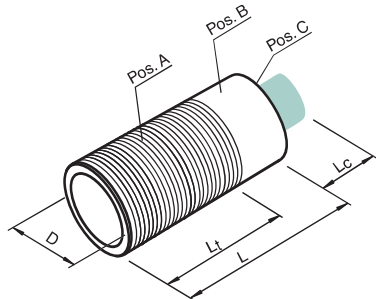
Sensing range	30 ... 300 mm 50 ... 800 mm	UB300-18GM40-E5-V1	UB300-18GM40-E4-V1	UB800-18GM40-E4-V1	UB800-18GM40-E5-V1
Transducer frequency	approx. 390 kHz approx. 255 kHz	●	●	●	●
Output type	1 switch output E4, NPN, NO/NC, programmable 1 switch output E5, PNP NO/NC, programmable	●	●	●	●
Switching frequency	≤ 13 Hz ≤ 4 Hz	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Length L [mm]	39,2
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	24,5
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C



### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

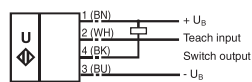
<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

### Electrical Connection



UB300-18GM40-E4-V1  
UB800-18GM40-E4-V1

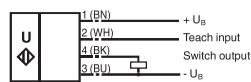
Standard symbol/Connections:  
(version E4, npn)



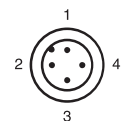
Core colours in accordance with EN 60947-5-2.

UB800-18GM40-E5-V1  
UB300-18GM40-E5-V1

Standard symbol/Connections:  
(version E5, pnp)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

No-load supply current	≤ 20 mA
Resolution	0.4 mm at max. sensing range
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 program input
LED green	Power on
LED yellow	permanently yellow: object in the evaluation range yellow, flashing: program function, object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Properties

- 300 mm and 800 mm sensing range versions
- DC, analog output
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Short barrel length for space-restricted mounting
- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

#### Model Number

	UB300-18GM40-I-V1	UB300-18GM40-U-V1	UB800-18GM40-I-V1	UB800-18GM40-U-V1
Sensing range	●	●	●	●
Transducer frequency	●	●	●	●
Operating voltage	●	●	●	●
Output type	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

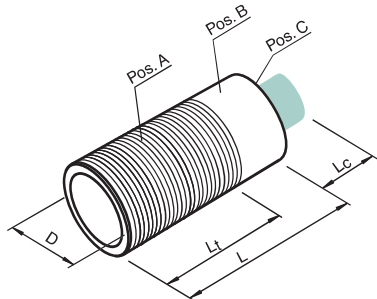
#### Dimensions

Length L [mm]	39,2
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	24,5
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

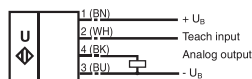


### Electrical Connection



UB300-18GM40-U-V1  
UB800-18GM40-U-V1

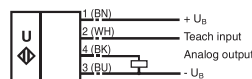
Standard symbol/Connections:  
(version U)



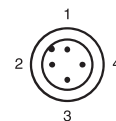
Core colors in accordance with EN 60947-5-2.

UB300-18GM40-I-V1  
UB800-18GM40-I-V1

Standard symbol/Connections:  
(version I)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



### Properties

- 400 mm sensing range
- DC, analog output
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Short barrel length for space-restricted mounting
- PTFE-coated transducer and 316L stainless steel barrel for maximum chemical resistance
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

<b>Model Number</b>	<b>UBC400-18GH40-I-V1</b>
Sensing range	40 ... 400 mm
Transducer frequency	approx. 255 kHz
Operating voltage	10 ... 30 V DC, ripple 10 % <sub>SS</sub>
No-load supply current	≤ 20 mA
Output type	1 analog output 4 ... 20 mA, short-circuit/overload protected
Resolution	0.4 mm at max. sensing range
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 program input lower evaluation limit A1: -U <sub>B</sub> ... +1 V, upper evaluation limit A2: +4 V ... +U <sub>B</sub> input impedance: > 4.7 kΩ, pulse duration: ≥ 1 s
Ambient temperature	0 ... 70 °C (32 ... 158 °F)
Material	
Housing	Stainless steel 1.4435 / AISI 316L O-ring for cover sealing: EPDM
Transducer	PTFE
Protection degree	IP67
Connection type	Device connector M12 x 1, 4-pin



### Approvals and Certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose

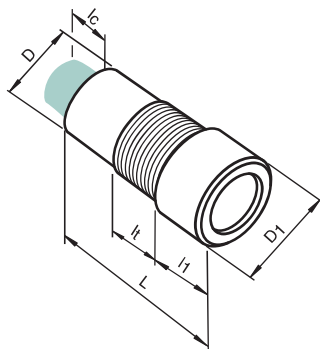
### Dimensions

Length L [mm]	43
Diameter D [mm]	18
Head diameter D <sub>1</sub> [mm]	22
Head length l <sub>1</sub> [mm]	13
Thread length l <sub>t</sub> [mm]	15
Connector area l <sub>c</sub> [mm]	10

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

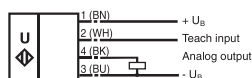


### Electrical Connection

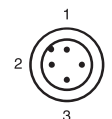


UBC400-18GH40-I-V1

Standard symbol/Connections:  
(version I)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Date of issue: 04/08/2015

3  
.1

Ultrasonic Sensors, Diffuse Mode Sensors, cylindrical



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

General Data	
Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 20 mA
Rated operational current	200 mA , short-circuit/overload protected
Input type	1 program input
LED green	Power on
LED yellow	indication of the switching state flashing: program function object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Properties

- 300 mm and 800 mm sensing range versions
- DC, switching output
- Ø18 mm cylindrical housing, angled head
- Connector version

### Your Benefit

- Right-angle transducer for space-restricted mounting
- Ultra bright LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

Model Number	UB300-18GM40A-E4-V1	UB300-18GM40A-E5-V1	UB800-18GM40A-E4-V1	UB800-18GM40A-E5-V1
Sensing range	●	●	●	●
Transducer frequency	●	●	●	●
Output type	●	●	●	●
Switching frequency	●	●	●	●

### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

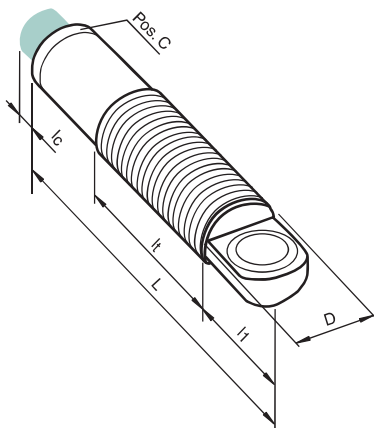
### Dimensions

Length L [mm]	57,7
Diameter D [mm]	18
Transducer length l <sub>t</sub> [mm]	18,5
Thread length l <sub>t</sub> [mm]	24,5
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

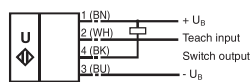


### Electrical Connection



UB300-18GM40A-E4-V1  
UB800-18GM40A-E4-V1

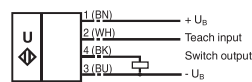
Standard symbol/Connections:  
(version E4, npn)



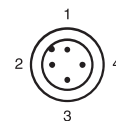
Core colours in accordance with EN 60947-5-2.

UB300-18GM40A-E5-V1  
UB800-18GM40A-E5-V1

Standard symbol/Connections:  
(version E5, pnp)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

No-load supply current	≤ 20 mA
Resolution	0.4 mm at max. sensing range
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 program input
LED green	Power on
LED yellow	permanently yellow: object in the evaluation range yellow, flashing: program function, object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin

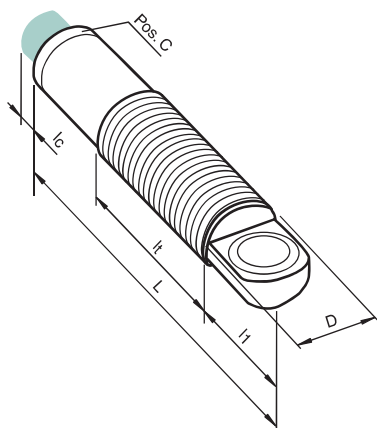


### Properties

- 300 mm and 800 mm sensing range versions
- DC, analog output
- Ø18 mm cylindrical housing, angled head
- Connector version

### Your Benefit

- Right-angle transducer for space-restricted mounting
- Ultra bright LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton



#### Model Number

		UB300-18GM40A-I-V1	UB300-18GM40A-U-V1	UB800-18GM40A-I-V1	UB800-18GM40A-U-V1
Sensing range	green = preferred type 30 ... 300 mm 50 ... 800 mm	●	●	●	●
Transducer frequency	approx. 390 kHz approx. 255 kHz	●	●	●	●
Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub> 15 ... 30 V DC , ripple 10 % <sub>SS</sub>	●	●	●	●
Output type	1 analog output 0 ... 10 V 1 analog output 4 ... 20 mA	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Length L [mm]	57,7
Diameter D [mm]	18
Transducer length l <sub>1</sub> [mm]	18,5
Thread length l <sub>2</sub> [mm]	24,5
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

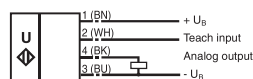
<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable

### Electrical Connection



UB300-18GM40A-U-V1  
UB800-18GM40A-U-V1

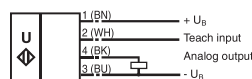
Standard symbol/Connections:  
(version U)



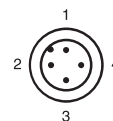
Core colors in accordance with EN 60947-5-2.

UB300-18GM40A-I-V1  
UB800-18GM40A-I-V1

Standard symbol/Connections:  
(version I)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Date of issue 04/08/2015





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Rated operational current	200 mA , short-circuit/overload protected
Input type	1 program input,
Synchronization	1 synchronous connection, bi-directional
LED yellow	indication of the switching state flashing: program function object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 1000 mm sensing range versions
- DC, switching output
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

#### Model Number

	UB500-18GM75-E4-V15	UB500-18GM75-E5-V15	UB1000-18GM75-E4-V15	UB1000-18GM75-E5-V15
Sensing range	30 ... 500 mm	70 ... 1000 mm		
Transducer frequency	approx. 380 kHz	approx. 255 kHz		
Output type	1 switch output NPN Normally open/closed , programmable	1 switch output PNP Normally open/closed , programmable		
Switching frequency	max. 8 Hz	max. 3 Hz		

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

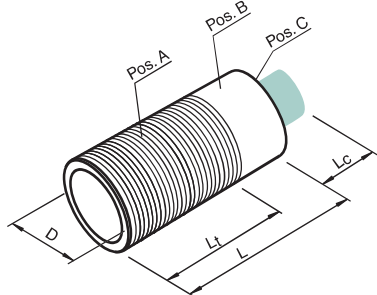
#### Dimensions

Length L [mm]	75
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	48
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UVW90-K18</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

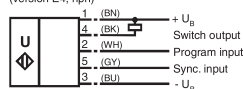


### Electrical Connection



UB500-18GM75-E4-V15  
UB1000-18GM75-E4-V15

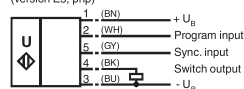
Standard symbol/Connections:  
(version E4, npn)



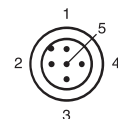
Wire colors in accordance with EN 60947-5-2.

UB500-18GM75-E5-V15  
UB1000-18GM75-E5-V15

Standard symbol/Connections:  
(version E5, pnp)



Wire colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)
- 5 | GY (gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Rated operational current	2 x 100 mA , short-circuit/overload protected
Input type	1 program input,
LED yellow	indication of the switching state flashing: program function object detected
LED red	"Error", object uncertain in program function: No object detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 1000 mm sensing range versions
- DC, 2 switching outputs
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Dual outputs, either both N.O. or N.C.
- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG3 pushbutton

#### Model Number

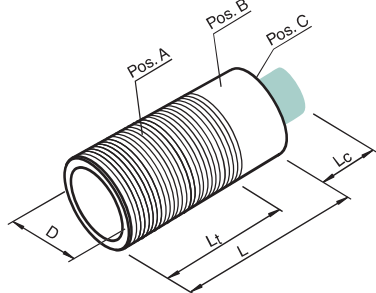
	green = preferred type	UB500-18GM75-E6-V15	UB500-18GM75-E7-V15	UB1000-18GM75-E6-V15	UB1000-18GM75-E7-V15
Sensing range	30 ... 500 mm 70 ... 1000 mm	●	●	●	●
Transducer frequency	approx. 380 kHz approx. 255 kHz	●	●	●	●
Output type	2 switch outputs NPN, normally open/ closed , programmable 2 switch outputs PNP, NO/NC, program- mable	●	●	●	●
Switching frequency	max. 8 Hz max. 3 Hz	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Length L [mm]	75
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	48
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C



### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

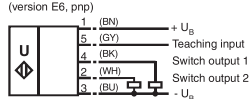
<b>UB-PROG3</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UVW90-K18</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

### Electrical Connection



UB500-18GM75-E6-V15  
UB1000-18GM75-E6-V15

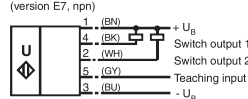
Standard symbol/Connections:  
(version E6, pnp)



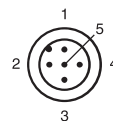
Core colours in accordance with EN 60947-5-2.

UB500-18GM75-E7-V15  
UB1000-18GM75-E7-V15

Standard symbol/Connections:  
(version E7, npn)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

General Data	
Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Rated operational current	2 x 100 mA , short-circuit/overload protected
Input type	1 program input,
LED yellow	indication of the switching state flashing: program function object detected
LED red	"Error", object uncertain in program function: No object detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 1000 mm sensing range versions
- DC, 2 switching outputs
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Dedicated N.O. (1) and N.C. (1) outputs
- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG3 pushbutton

Model Number	UB500-18GM75-E01-V15	UB500-18GM75-E23-V15	UB1000-18GM75-E01-V15	UB1000-18GM75-E23-V15
Sensing range	30 ... 500 mm	70 ... 1000 mm		
Transducer frequency	approx. 380 kHz	approx. 255 kHz		
Output type	2 switch outputs NPN, normally open/closed , programmable	2 switch outputs PNP, NO/NC, programmable		
Switching frequency	max. 8 Hz	max. 3 Hz		

### Approvals and Certificates

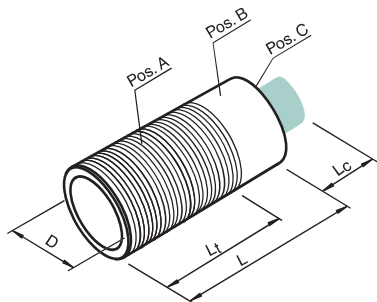
UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

### Dimensions

Length L [mm]	75
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	48
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C

### Accessories This and more accessories can be found in chapter 3.5 from page 673 See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>UB-PROG3</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UVW90-K18</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

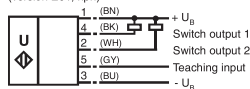


### Electrical Connection



UB500-18GM75-E01-V15  
UB1000-18GM75-E01-V15

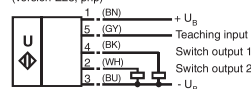
Standard symbol/Connections:  
(version E01, npn)



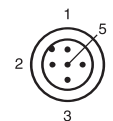
Core colours in accordance with EN 60947-5-2.

UB500-18GM75-E23-V15  
UB1000-18GM75-E23-V15

Standard symbol/Connections:  
(version E23, pnp)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 program input
Synchronization	1 synchronous connection, bi-directional
LED yellow	permanently yellow: object in the evaluation range yellow, flashing: program function, object detected
LED red	permanently red: Error red, flashing: program function, object not detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP65
Connection type	Device connector M12 x 1, 5-pin



### Properties

- 500 mm and 1000 mm sensing range versions
- DC, analog output
- Ø18 mm cylindrical housing
- Connector version

### Your Benefit

- Ultra bright rear-view LEDs
- Flexible configuration via Teach-wire or UB-PROG2 pushbutton

#### Model Number

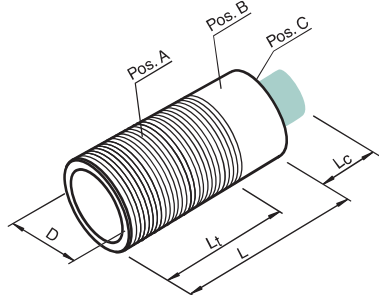
		UB500-18GM75-U-V15	UB500-18GM75-I-V15	UB1000-18GM75-I-V15	UB1000-18GM75-U-V15
Sensing range	green = preferred type 30 ... 500 mm	●	●	●	●
Transducer frequency	70 ... 1000 mm approx. 380 kHz approx. 255 kHz	●	●	●	●
Operating voltage	10 ... 30 V DC, ripple 10 % <sub>SS</sub> 15 ... 30 V DC, ripple 10 % <sub>SS</sub>	●	●	●	●
No-load supply current	≤ 45 mA ≤ 50 mA	●	●	●	●
Output type	1 analog output 0 ... 10 V 1 analog output 4 ... 20 mA	●	●	●	●
Resolution	0.11 mm at max. sensing range 0.13 mm at max. sensing range 0.35 mm	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Length L [mm]	75
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	48
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. C



### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

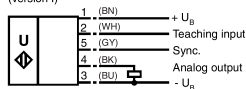
<b>UB-PROG2</b>	Programming unit
<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>UVW90-K18</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

### Electrical Connection



UB1000-18GM75-I-V15  
UB500-18GM75-I-V15

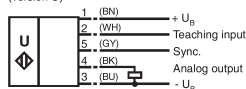
Standard symbol/Connections:  
(version I)



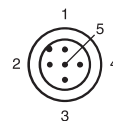
Core colours in accordance with EN 60947-5-2.

UB1000-18GM75-U-V15  
UB500-18GM75-U-V15

Standard symbol/Connections:  
(version U)



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Resolution	1 mm
Deviation of the characteristic curve	± 1 % of full-scale value
Input type	1 Parameterization input
Synchronization	1 synchronous connection, bi-directional
LED green	Power on
LED red	flashing: error permanent: no object detected
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 1000 mm sensing range versions
- DC, frequency output, PWM output and serial output versions
- Ø18 mm cylindrical housing
- Connector version

#### Model Number

		UB500-18GM75-F-V15	UB500-18GM75-PWM-V15	UB500-18GM75-BIT-V15	UB1000-18GM75-F-V15	UB1000-18GM75-PWM-V15	UB1000-18GM75-BIT-V15
Sensing range	30 ... 500 mm	●	●	●			
	80 ... 1000 mm				●	●	●
Transducer frequency	approx. 380 kHz	●	●	●			
	approx. 255 kHz				●	●	●
Output type	1 frequency output, push/pull, programmable	●			●		
	1 PWM output, push/pull, programmable		●			●	
	1 serial output, push/pull, programmable			●			●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●

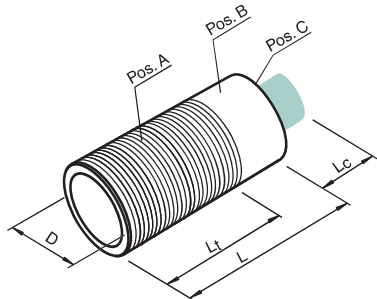
#### Dimensions

Length L [mm]	75
Diameter D [mm]	18
Thread length l <sub>t</sub> [mm]	52
Connector area l <sub>c</sub> [mm]	10
LED position	Pos. B

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UVW90-K18</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

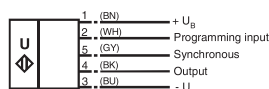


### Electrical Connection

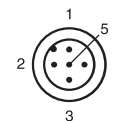


- UB1000-18GM75-F-V15
- UB500-18GM75-F-V15
- UB500-18GM75-PWM-V15
- UB1000-18GM75-PWM-V15
- UB1000-18GM75-BIT-V15
- UB500-18GM75-BIT-V15

Standard symbol/Connections:



Core colours in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)
- 5 | GY (gray)





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Sensing range	100 ... 1000 mm
Transducer frequency	approx. 200 kHz
Linearity error	≤ ± 2 mm
Operating voltage	12 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Interface type	IO-Link
Output type	1 switch output PNP, NO SIO mode
Operating current	≤ 200 mA , short-circuit/overload protected
LED green	permanently green; Power on flashes: IO-Link ON
LED yellow	on: object within measuring range
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Protection degree	IP67
Connection type	Device connector M12 x 1 , 4-pin



### Properties

- 1000 mm sensing range
- DC, IO-Link / switching output
- Ø18 mm cylindrical housing, angled and straight versions
- Connector version

### Your Benefit

- Continuous IO-Link accessibility to output status and configuration parameters

#### Model Number

Direction of radiation	frontal	●	●
	lateral		●

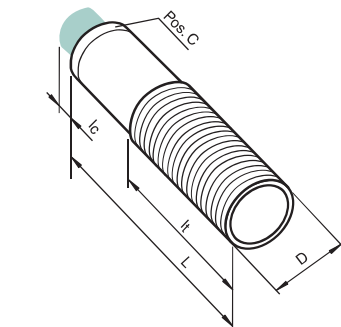
#### Dimensions

Length L [mm]	91	119
Diameter D [mm]		18
Transducer length l <sub>1</sub> [mm]		28
Thread length l <sub>2</sub> [mm]		65
Connector area l <sub>c</sub> [mm]		10
LED position		Pos. C

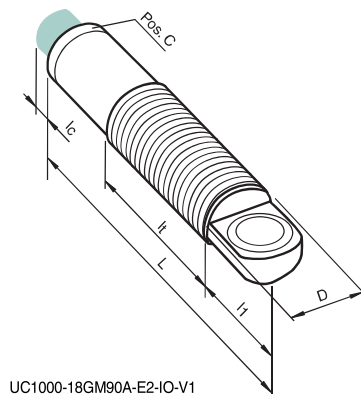
### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>OMH-04</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UVW90-K18</b>	Ultrasonic deflector
<b>V1-G-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-G-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable
<b>V1-W-2M-PVC</b>	Cable socket, M12, 4-pin, PVC cable
<b>V1-W-2M-PUR</b>	Cable socket, M12, 4-pin, PUR cable



UC1000-18GM90-E2-IO-V1

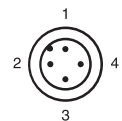
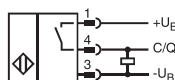


UC1000-18GM90A-E2-IO-V1

### Electrical Connection



UC1000-18GM90-E2-IO-V1  
UC1000-18GM90A-E2-IO-V1



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Date of issue 04/08/2015

3  
.1

Ultrasonic Sensors, Diffuse Mode Sensors, cylindrical





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Rated operational current	200 mA , short-circuit/overload protected
Input type	1 program input,
Synchronization	bi-directional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	nickel plated brass; plastic components: PBT
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, switching output
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Teach-wire or UB-PROG2 pushbutton configurable

#### Model Number

	green = preferred type	UB500-30GM-E4-V15	UB500-30GM-E5-V15	UB2000-30GM-E4-V15	UB2000-30GM-E5-V15	UB4000-30GM-E4-V15	UB4000-30GM-E5-V15	UB6000-30GM-E4-V15	UB6000-30GM-E5-V15
Sensing range	30 ... 500 mm	●	●						
	80 ... 2000 mm			●	●				
	200 ... 4000 mm					●	●		
	350 ... 6000 mm							●	●
Transducer frequency	approx. 380 kHz	●	●						
	approx. 180 kHz			●	●				
	approx. 85 kHz					●	●		
	approx. 65 kHz							●	●
Output type	1 switch output NPN , Normally open/closed , programmable	●	●	●	●	●	●	●	●
	1 switch output PNP , Normally open/closed , programmable		●	●	●	●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●	●

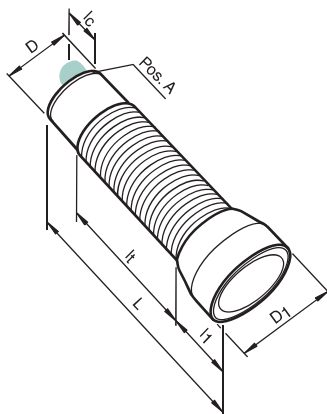
#### Dimensions

Length L [mm]	94	108	112
Diameter D [mm]	30		
Transducer diameter D <sub>1</sub> [mm]	30	40	73
Transducer length l <sub>1</sub> [mm]	0	25	32,5
Thread length l <sub>t</sub> [mm]	72	61	57,5
Connector area l <sub>c</sub> [mm]	10		
LED position	Pos. A		

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 30-F</b>	Mounting flange with dead stop, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UB-PROG2</b>	Programming unit
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>UVW90-M30</b>	Ultrasonic -deflector
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UVW90-K30</b>	Ultrasonic -deflector

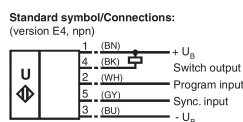


### Electrical Connection

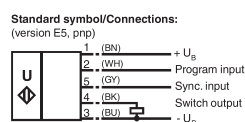


UB500-30GM-E4-V15  
UB4000-30GM-E4-V15  
UB2000-30GM-E4-V15  
UB6000-30GM-E4-V15

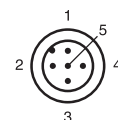
UB2000-30GM-E5-V15  
UB6000-30GM-E5-V15  
UB4000-30GM-E5-V15  
UB500-30GM-E5-V15



Wire colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue: 04/08/2015



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Interface type	RS 232, 9600 Bit/s , no parity, 8 data bits, 1 stop bit
Rated operational current	200 mA , short-circuit/overload protected
Synchronization	bi-directional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	stainless steel (1.4305 / AISI 303), PBT plastic parts
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, 2 switching outputs
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

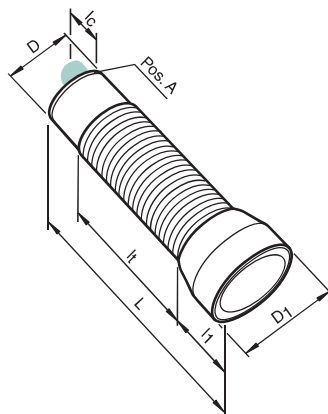
- Potentiometer-free configuration via programming plug or ULTRA3000 software

### Further Products

In this series, we offer additionally:

#### UCC1000-30GM-E6R2-V15

Technical data like UC2000-30GM-E6R2-V15 but:  
Sensing range: 1000 mm  
Transducer: chemical resistant PTFE coated



#### Model Number

	UC500-30GM-E6R2-V15	UC500-30GM-E7R2-V15	UC2000-30GM-E6R2-V15	UC2000-30GM-E7R2-V15	UC4000-30GM-E6R2-V15	UC4000-30GM-E7R2-V15	UC6000-30GM-E6R2-V15	UC6000-30GM-E7R2-V15
Sensing range	30 ... 500 mm	80 ... 2000 mm	200 ... 4000 mm	350 ... 6000 mm				
Transducer frequency	approx. 380 kHz	approx. 180 kHz	approx. 85 kHz	approx. 65 kHz				
Output type	2 switch outputs NPN, NO/NC, programmable	2 switch outputs PNP, NO/NC, programmable						
Switching frequency	≤ 0.5 Hz	≤ 1 Hz	≤ 2.5 Hz	≤ 7 Hz				

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●

#### Dimensions

Length L [mm]	94	108	112
Diameter D [mm]	30		
Transducer diameter D <sub>1</sub> [mm]	30	40	73
Transducer length l <sub>1</sub> [mm]	0	25	32,5
Thread length l <sub>2</sub> [mm]	72	61	57,5
Connector area l <sub>c</sub> [mm]	10		
LED position	Pos. A		
Temperature / program plug	Pos. A , 27,5 mm		

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

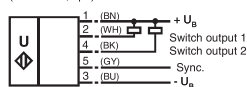
<b>BF 30</b>	Mounting flange, 30 mm
<b>UC-30GM-R2</b>	Programming cable
<b>ULTRA3000</b>	Software for ultrasonic sensors, comfort line
<b>UVW90-M30</b>	Ultrasonic -deflector
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

### Electrical Connection



UC500-30GM-E7R2-V15  
UC2000-30GM-E7R2-V15  
UC4000-30GM-E7R2-V15  
UC6000-30GM-E7R2-V15

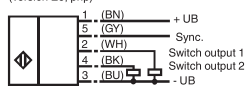
Standard symbol/Connection:  
(version E7, rtpn)



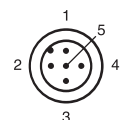
Core colors in accordance with EN 60947-5-2.

UC500-30GM-E6R2-V15  
UC2000-30GM-E6R2-V15  
UC4000-30GM-E6R2-V15  
UC6000-30GM-E6R2-V15  
UCC1000-30GM-E6R2-V15

Standard symbol/Connection:  
(version E6, ptpn)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
Power consumption	≤ 900 mW
Interface type	RS 232, 9600 Bit/s , no parity, 8 data bits, 1 stop bit
Output type	1 current output 4 ... 20 mA 1 voltage output 0 ... 10 V
Deviation of the characteristic curve	≤ 0.2 % of full-scale value
Synchronization	bi-directional
Material	
Housing	stainless steel (1.4305 / AISI 303), PBT plastic parts
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, analog outputs
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Potentiometer-free configuration via programming plug or ULTRA3000 software

### Further Products

In this series, we offer additionally:

#### UCC1000-30GM-IUR2-V15

Technical data like UC2000-30GM-IUR2-V15 but:  
Sensing range: 1000 mm  
Transducer: chemical resistant PTFE coated

#### Model Number

		UC300-30GM-IUR2-V15	UC500-30GM-IUR2-V15	UC2000-30GM-IUR2-V15	UC4000-30GM-IUR2-V15	UC6000-30GM-IUR2-V15
Sensing range	15 ... 300 mm	●				
	30 ... 500 mm		●			
	80 ... 2000 mm			●		
	200 ... 4000 mm				●	
	350 ... 6000 mm					●
Transducer frequency	approx. 380 kHz	●	●			
	approx. 180 kHz			●		
	approx. 85 kHz				●	
	approx. 65 kHz					●
Resolution	evaluation range [mm]/4000, but ≥ 0.05 mm	●	●			
	evaluation range [mm]/4000, but ≥ 0.35 mm			●	●	●
Ambient temperature	0 ... 70 °C (32 ... 158 °F)	●				
	-25 ... 70 °C (-13 ... 158 °F)		●	●	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●

#### Dimensions

Length L [mm]		114	128	132
Diameter D [mm]		30		
Transducer diameter D <sub>1</sub> [mm]		30	40	73
Transducer length l <sub>1</sub> [mm]		0	25	32,5
Thread length l <sub>t</sub> [mm]		92	81	77,5
Connector area l <sub>c</sub> [mm]		10		
LED position		Pos. A		
Temperature / program plug		Pos. A , 27.5 mm		

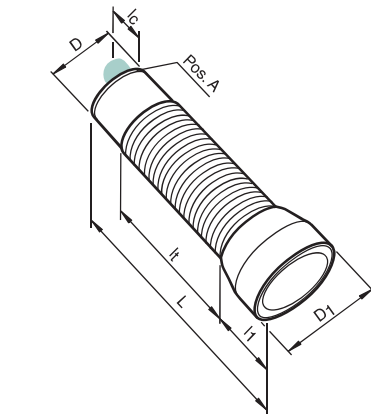
### Accessories

This and more accessories can be found in chapter 3.5 from page 673

See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 30-F</b>	Mounting flange with dead stop, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UC-30GM-R2</b>	Programming cable
<b>ULTRA3000</b>	Software for ultrasonic sensors, comfort line
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

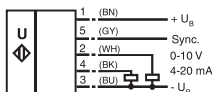


### Electrical Connection

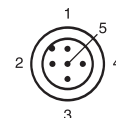


- UC300-30GM-IUR2-V15
- UC500-30GM-IUR2-V15
- UC2000-30GM-IUR2-V15
- UC4000-30GM-IUR2-V15
- UC6000-30GM-IUR2-V15
- UCC1000-30GM-IUR2-V15

Standard symbol/Connection:  
(version IU)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)
- 5 | GY (gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 50 mA
Interface type	RS 232, 9600 Bit/s , no parity, 8 data bits, 1 stop bit
Output type	2 switch outputs PNP, NO/NC, programmable
Rated operational current	200 mA , short-circuit/overload protected
Synchronization	bi-directional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	stainless steel (1.4305 / AISI 303), PBT plastic parts
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	sensor head: IP67 connector sensor head/controller unit: IP52
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 300 mm and 1000 mm sensing range versions
- DC, 2 switching outputs
- Ø30 mm cylindrical housing with separate head
- Connector version

### Your Benefit

- Provides maximum sensing range in space-restricted mounting areas
- Potentiometer-free configuration via programming plug or ULTRA3000 software

#### Model Number

		UC300-30GM-E6R2-K-V15	UC1000-30GM-E6R2-K-V15
Sensing range	30 ... 300 mm 80 ... 1000 mm	●	●
Transducer frequency	approx. 380 kHz approx. 180 kHz	●	●
Switching frequency	≤ 2.5 Hz ≤ 7 Hz	●	●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●
CSA approval	cCSAus Listed, General Purpose	●	●

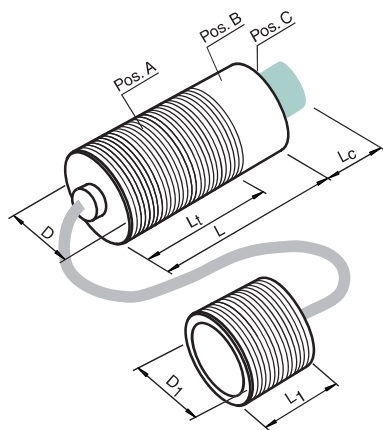
#### Dimensions

	93,5	112
Length L [mm]		
Diameter D [mm]	30	
Transducer diameter D <sub>1</sub> [mm]	18	30
Transducer length l <sub>1</sub> [mm]	25	27
Thread length l <sub>t</sub> [mm]	71,5	90
Connector area l <sub>c</sub> [mm]		10
LED position		Pos. C
Temperature / program plug		Pos. C , 27.5 mm

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 30-F</b>	Mounting flange with dead stop, 30 mm
<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>UC-30GM-R2</b>	Programming cable
<b>ULTRA3000</b>	Software for ultrasonic sensors, comfort line
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

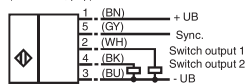


### Electrical Connection

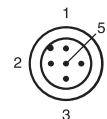


UC300-30GM-E6R2-K-V15  
UC1000-30GM-E6R2-K-V15

Standard symbol/Connection:  
(version E6, png)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
Power consumption	≤ 900 mW
Interface type	RS 232, 9600 Bit/s , no parity, 8 data bits, 1 stop bit
Output type	1 current output 4 ... 20 mA 1 voltage output 0 ... 10 V
Deviation of the characteristic curve	≤ 0.2 % of full-scale value
Synchronization	bi-directional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	stainless steel (1.4305 / AISI 303), PBT plastic parts
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	sensor head: IP67 connector sensor head/controller unit: IP52
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 300 mm and 1000 mm sensing range versions
- DC, analog outputs
- Ø30 mm cylindrical housing with separate head
- Connector version

### Your Benefit

- Provides maximum sensing range in space-restricted mounting areas
- Potentiometer-free configuration via programming plug or ULTRA3000 software

#### Model Number

		UC300-30GM-IUR2-K-V15	UC1000-30GM-IUR2-K-V15
Sensing range	30 ... 300 mm 80 ... 1000 mm	●	●
Transducer frequency	approx. 380 kHz approx. 180 kHz	●	●
Resolution	evaluation range [mm]/4000, but ≥ 0.05 mm evaluation range [mm]/4000, but ≥ 0.35 mm	●	●

#### Approvals and Certificates

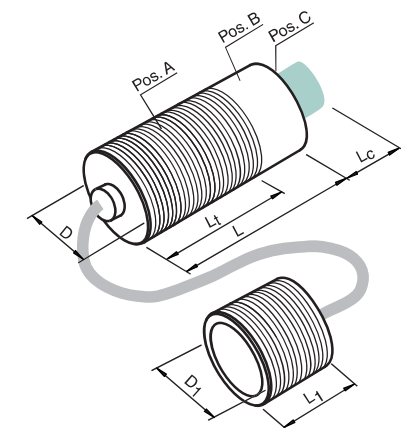
		●	●
UL approval	cULus Listed, General Purpose		
CSA approval	cCSAus Listed, General Purpose		

#### Dimensions

Length L [mm]		112
Diameter D [mm]		30
Transducer diameter D <sub>1</sub> [mm]	18	30
Transducer length l <sub>1</sub> [mm]	25	27
Thread length l <sub>t</sub> [mm]		90
Connector area l <sub>c</sub> [mm]		10
LED position		Pos. C
Temperature / program plug		Pos. C , 27.5 mm

### Accessories This and more accessories can be found in chapter 3.5 from page 673 See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>BF 18</b>	Mounting flange, 18 mm
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 18-F</b>	Mounting flange with dead stop, 18 mm
<b>BF 30-F</b>	Mounting flange with dead stop, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>UC-30GM-R2</b>	Programming cable
<b>ULTRA3000</b>	Software for ultrasonic sensors, comfort line
<b>DA5-IU-2K-V</b>	Process control and indication equipment
<b>V15-G-2M-PVC</b>	Cable socket, M12, 5-pin, PVC cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable

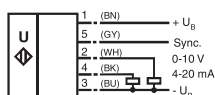


### Electrical Connection

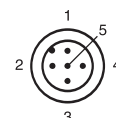


UC300-30GM-IUR2-K-V15  
UC1000-30GM-IUR2-K-V15

Standard symbol/Connection:  
(version IU)



Core colors in accordance with EN 60947-5-2.



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	12 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	Switching output 1 and Switching output 2 adjustable
Interface type	Infrared
Output type	2 switch outputs PNP, NO ( NC programmable )
Operating current	Per 150 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, 2 switching outputs
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

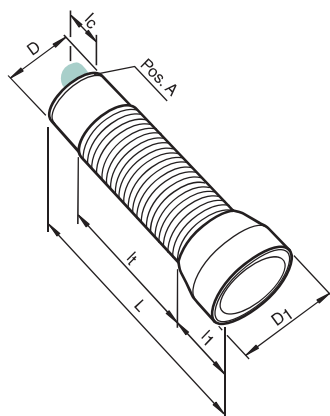
	UC500-30GM70-2E2R2-V15	UC2000-30GM70-2E2R2-V15	UC3500-30GM70-2E2R2-V15	UC6000-30GM70-2E2R2-V15
Sensing range	45 ... 500 mm	100 ... 2000 mm	200 ... 3500 mm	350 ... 6000 mm
Transducer frequency	approx. 300 kHz	approx. 200 kHz	approx. 120 kHz	approx. 80 kHz

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Diameter D [mm]	30		
Length L [mm]	99,3	121,2	
Thread length l <sub>t</sub> [mm]	74,7	62	
Transducer diameter D <sub>1</sub> [mm]	30	65	
Transducer length l <sub>1</sub> [mm]	0,3	0,5	36,5
Connector area l <sub>c</sub> [mm]	10,5		



### Accessories

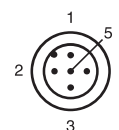
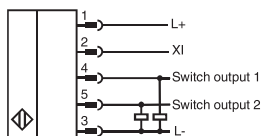
This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program

### Electrical Connection



UC500-30GM70-2E2R2-V15  
UC2000-30GM70-2E2R2-V15  
UC3500-30GM70-2E2R2-V15  
UC6000-30GM70-2E2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	12 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	Switching output 1 and Switching output 2 adjustable
Interface type	Infrared
Output type	2 switch outputs PNP, NO ( NC programmable )
Operating current	Per 150 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, 2 switching outputs
- Ø30 mm cylindrical housing with adjustable head
- Connector version

### Your Benefit

- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

	UC500-30GM70S-2E2R2-V15	UC2000-30GM70S-2E2R2-V15	UC3500-30GM70S-2E2R2-V15	UC6000-30GM70S-2E2R2-V15
Sensing range	45 ... 500 mm	●		
	100 ... 2000 mm		●	
	200 ... 3500 mm			●
	350 ... 6000 mm			●
Transducer frequency	approx. 300 kHz	●		
	approx. 200 kHz		●	
	approx. 120 kHz			●
	approx. 80 kHz			●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

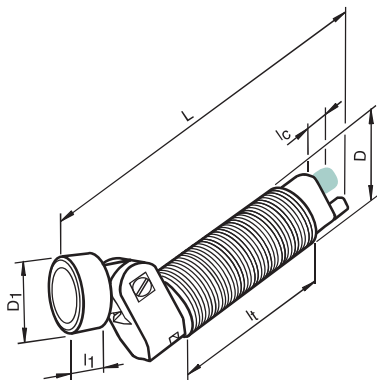
#### Dimensions

Diameter D [mm]	30		
Length L [mm]	126	143,5	
Thread length l <sub>t</sub> [mm]	74,4		
Transducer diameter D <sub>1</sub> [mm]	30	65	
Transducer length l <sub>1</sub> [mm]	28	37,2	
Connector area l <sub>c</sub> [mm]	10,5		

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
 See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

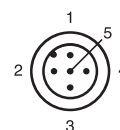
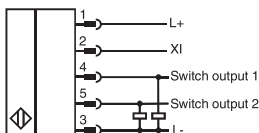
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



### Electrical Connection



UC500-30GM70S-2E2R2-V15  
 UC2000-30GM70S-2E2R2-V15  
 UC3500-30GM70S-2E2R2-V15  
 UC6000-30GM70S-2E2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	12 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	Switching output 1 and Switching output 2 adjustable
Interface type	Infrared
Output type	2 switch outputs PNP, NO ( NC programmable )
Operating current	Per 150 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 2000 mm sensing range versions
- DC, 2 switching outputs
- Ø30 mm cylindrical housing with separate head
- Connector version

### Your Benefit

- Provides maximum sensing range in space-restricted mounting areas
- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

Sensing range	45 ... 500 mm	UC500-30GM70-2E2R2-K-V15	UC2000-30GM70-2E2R2-K-V15
	100 ... 2000 mm	●	●
Transducer frequency	approx. 300 kHz	●	●
	approx. 200 kHz		●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●
CSA approval	cCSAus Listed, General Purpose	●	●

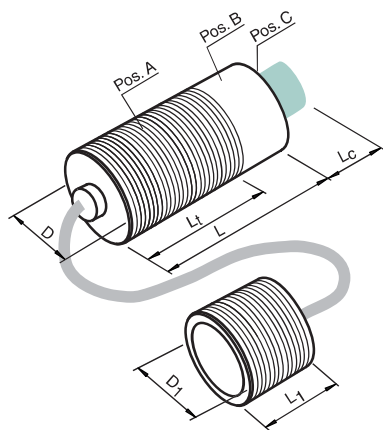
#### Dimensions

Diameter D [mm]	30
Length L [mm]	111,3
Thread length l <sub>t</sub> [mm]	74,4
Transducer diameter D <sub>1</sub> [mm]	18
Transducer length l <sub>1</sub> [mm]	26,7
Connector area l <sub>c</sub> [mm]	10,5

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

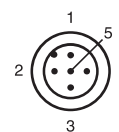
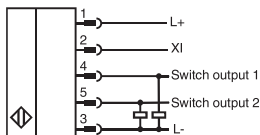
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



### Electrical Connection



UC500-30GM70-2E2R2-K-V15  
UC2000-30GM70-2E2R2-K-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015



## Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

General Data	
Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO (NC programmable)
Operating current	300 mA, short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1, 5-pin



## Properties

- Up to 6000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing
- Connector version

## Your Benefit

- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

### Model Number

		UC500-30GM70-IE2R2-V15	UC500-30GM70-UE2R2-V15	UC2000-30GM70-IE2R2-V15	UC2000-30GM70-UE2R2-V15	UC3500-30GM70-IE2R2-V15	UC3500-30GM70-UE2R2-V15	UC6000-30GM70-IE2R2-V15	UC6000-30GM70-UE2R2-V15	
Sensing range	green = preferred type									
	45 ... 500 mm	●	●							
	100 ... 2000 mm			●	●					
	200 ... 3500 mm					●	●			
Transducer frequency	350 ... 6000 mm							●	●	
	approx. 300 kHz	●	●							
	approx. 200 kHz			●	●					
	approx. 120 kHz					●	●			
Output type	approx. 80 kHz							●	●	
	1 voltage output 0 ... 10 V, ascending/descending programmable		●		●		●	●	●	
	1 current output 4 ... 20 mA, ascending/descending programmable	●	●			●			●	

### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●	●

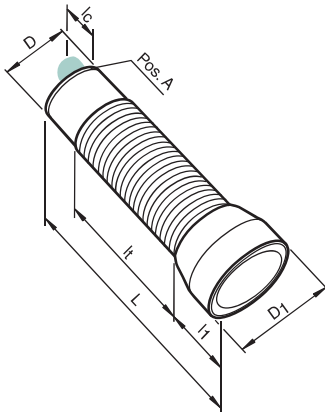
### Dimensions

Diameter D [mm]	30		
Length L [mm]	99,3	121,2	
Thread length l <sub>t</sub> [mm]	74,7	62	
Transducer diameter D <sub>1</sub> [mm]	30	65	
Transducer length l <sub>1</sub> [mm]	0,3	0,5	36,5
Connector area l <sub>c</sub> [mm]	10,5		

## Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

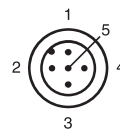
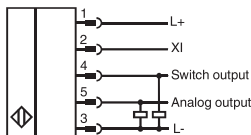
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



## Electrical Connection



UC500-30GM70-IE2R2-V15  
UC500-30GM70-UE2R2-V15  
UC2000-30GM70-IE2R2-V15  
UC2000-30GM70-UE2R2-V15  
UC3500-30GM70-IE2R2-V15  
UC3500-30GM70-UE2R2-V15  
UC6000-30GM70-IE2R2-V15  
UC6000-30GM70-UE2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO ( NC programmable )
Operating current	300 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing with adjustable head
- Connector version

### Your Benefit

- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

		UC500-30GM70S-IE2R2-V15	UC500-30GM70S-UE2R2-V15	UC2000-30GM70S-IE2R2-V15	UC2000-30GM70S-UE2R2-V15	UC3500-30GM70S-IE2R2-V15	UC3500-30GM70S-UE2R2-V15	UC6000-30GM70S-IE2R2-V15	UC6000-30GM70S-UE2R2-V15
Sensing range	45 ... 500 mm	●	●						
	100 ... 2000 mm			●	●				
	200 ... 3500 mm					●	●		
	350 ... 6000 mm							●	●
Transducer frequency	approx. 300 kHz	●	●						
	approx. 200 kHz			●	●				
	approx. 120 kHz					●	●		
	approx. 80 kHz							●	●
Output type	1 voltage output 0 ... 10 V , ascending/descending programmable		●		●		●		●
	1 current output 4 ... 20 mA , ascending/descending programmable	●		●		●		●	

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●	●

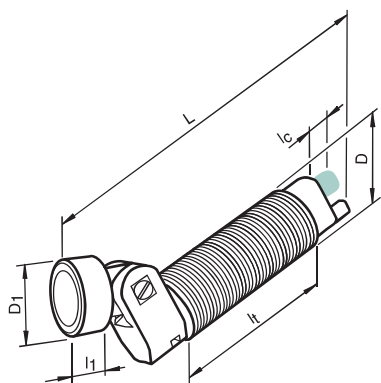
#### Dimensions

Diameter D [mm]	30	
Length L [mm]	126	143,5
Thread length l <sub>t</sub> [mm]	74,4	
Transducer diameter D <sub>1</sub> [mm]	30	65
Transducer length l <sub>1</sub> [mm]	28	37,2
Connector area l <sub>c</sub> [mm]	10,5	

#### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

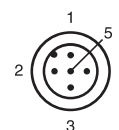
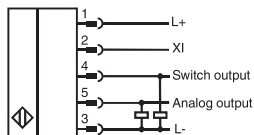
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



### Electrical Connection



- UC500-30GM70S-IE2R2-V15
- UC500-30GM70S-UE2R2-V15
- UC2000-30GM70S-IE2R2-V15
- UC2000-30GM70S-UE2R2-V15
- UC3500-30GM70S-IE2R2-V15
- UC3500-30GM70S-UE2R2-V15
- UC6000-30GM70S-IE2R2-V15
- UC6000-30GM70S-UE2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO ( NC programmable )
Operating current	300 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- 500 mm and 2000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing with separate head
- Connector version

### Your Benefit

- Provides maximum sensing range in space-restricted mounting areas
- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

	green = preferred type				
Sensing range	45 ... 500 mm	●	●	●	●
Transducer frequency	100 ... 2000 mm	●	●	●	●
	approx. 300 kHz				
Output type	approx. 200 kHz			●	●
	1 voltage output 0 ... 10 V , ascending/descending programmable		●		
	1 current output 4 ... 20 mA , ascending/descending programmable	●		●	

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

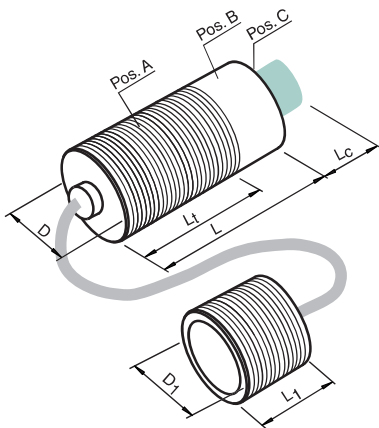
#### Dimensions

Diameter D [mm]	30
Length L [mm]	111,3
Thread length $l_t$ [mm]	74,4
Transducer diameter $D_1$ [mm]	18
Transducer length $l_1$ [mm]	26,7
Connector area $l_c$ [mm]	10,5

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

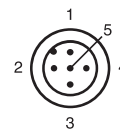
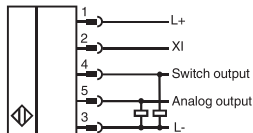
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



### Electrical Connection



UC500-30GM70-IE2R2-K-V15  
UC500-30GM70-UE2R2-K-V15  
UC2000-30GM70-IE2R2-K-V15  
UC2000-30GM70-UE2R2-K-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO ( NC programmable )
Operating current	300 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	High grade stainless steel
Transducer	PTFE coated; epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Chemically resistant PTFE-coated sensing face and corrosion resistant high grade stainless steel housing
- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

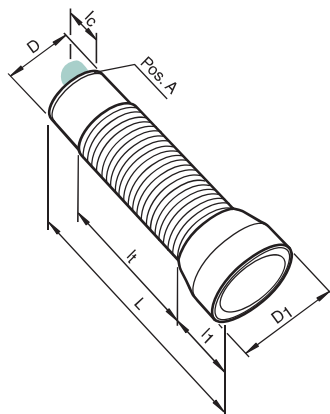
	UCC500-30GH70-IE2R2-V15	UCC500-30GH70-UE2R2-V15	UCC2000-30GH70-IE2R2-V15	UCC2000-30GH70-UE2R2-V15	UCC3500-30GH70-IE2R2-V15	UCC3500-30GH70-UE2R2-V15	UCC6000-30GH70-IE2R2-V15	UCC6000-30GH70-UE2R2-V15
Sensing range	45 ... 500 mm	●	●					
	100 ... 2000 mm			●	●			
	200 ... 3500 mm					●	●	
	350 ... 6000 mm						●	●
Transducer frequency	approx. 300 kHz	●	●					
	approx. 200 kHz			●	●			
	approx. 120 kHz					●	●	
	approx. 80 kHz						●	●
Output type	1 voltage output 0 ... 10 V , ascending/descending programmable		●		●		●	●
	1 current output 4 ... 20 mA , ascending/descending programmable	●		●		●		●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●

#### Dimensions

Diameter D [mm]	30		
Length L [mm]	99,3	121,2	
Thread length l <sub>t</sub> [mm]	74,7	62	
Transducer diameter D <sub>1</sub> [mm]	30	65	
Transducer length l <sub>1</sub> [mm]	0,3	0,5	36,5
Connector area l <sub>c</sub> [mm]	10,5		



### Accessories

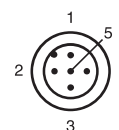
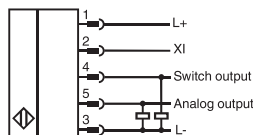
This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program

### Electrical Connection



- UCC500-30GH70-IE2R2-V15
- UCC500-30GH70-UE2R2-V15
- UCC2000-30GH70-IE2R2-V15
- UCC2000-30GH70-UE2R2-V15
- UCC3500-30GH70-IE2R2-V15
- UCC3500-30GH70-UE2R2-V15
- UCC6000-30GH70-IE2R2-V15
- UCC6000-30GH70-UE2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015

3  
1  
Ultrasonic Sensors, Diffuse Mode Sensors, cylindrical





### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO ( NC programmable )
Operating current	300 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	High grade stainless steel
Transducer	PTFE coated; epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing with adjustable head
- Connector version

### Your Benefit

- Chemically resistant PTFE-coated sensing face and corrosion resistant high grade stainless steel housing
- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface

#### Model Number

		UCC500-30GH70S-IE2R2-V15	UCC500-30GH70S-UE2R2-V15	UCC2000-30GH70S-IE2R2-V15	UCC2000-30GH70S-UE2R2-V15	UCC3500-30GH70S-IE2R2-V15	UCC3500-30GH70S-UE2R2-V15	UCC6000-30GH70S-IE2R2-V15	UCC6000-30GH70S-UE2R2-V15
Sensing range	45 ... 500 mm	●	●						
	100 ... 2000 mm			●	●				
	200 ... 3500 mm					●	●		
	350 ... 6000 mm							●	●
Transducer frequency	approx. 300 kHz	●	●						
	approx. 200 kHz			●	●				
	approx. 120 kHz					●	●		
	approx. 80 kHz							●	●
Output type	1 voltage output 0 ... 10 V , ascending/ descending programmable		●		●		●		●
	1 current output 4 ... 20 mA , ascending/ descending programmable	●		●		●		●	

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●	●	●	●	●

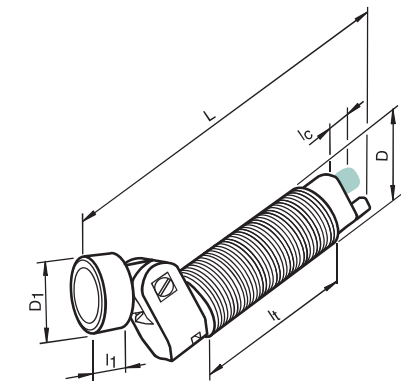
#### Dimensions

Diameter D [mm]	30	
Length L [mm]	143,5	126
Thread length l <sub>t</sub> [mm]	74,4	
Transducer diameter D <sub>1</sub> [mm]	30	65
Transducer length l <sub>1</sub> [mm]	28	37,2
Connector area l <sub>c</sub> [mm]	10,5	

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

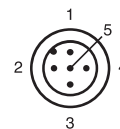
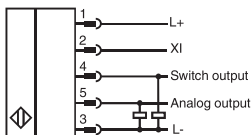
<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program



### Electrical Connection



- UCC2000-30GH70S-UE2R2-V15
- UCC3500-30GH70S-IE2R2-V15
- UCC3500-30GH70S-UE2R2-V15
- UCC6000-30GH70S-IE2R2-V15
- UCC6000-30GH70S-UE2R2-V15
- UCC500-30GH70S-IE2R2-V15
- UCC500-30GH70S-UE2R2-V15
- UCC2000-30GH70S-IE2R2-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	20 ... 30 V DC (including ripple)
No-load supply current	≤ 50 mA
Potentiometer	switch output adjustable
Interface type	Infrared
Output type	1 switch output PNP, NO ( NC programmable )
Operating current	300 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional / TEACH-IN input, programmable
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Material</b>	
Housing	High grade stainless steel
Transducer	PTFE coated; epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection type	Device connector M12 x 1 , 5-pin

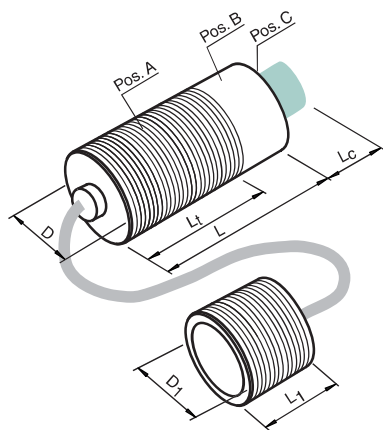


### Properties

- 500 mm and 2000 mm sensing range versions
- DC, analog and switching output
- Ø30 mm cylindrical housing with separate head
- Connector version

### Your Benefit

- Chemically resistant PTFE-coated sensing face and corrosion resistant high grade stainless steel housing
- Provides maximum sensing range in space-restricted mounting areas
- Simple potentiometer-based configuration
- Optional, expanded configuration control via ULTRA-PROG-IR software and interface



#### Model Number

	UCC500-30GH70-IE2R2-K-V15	UCC500-30GH70-UE2R2-K-V15	UCC2000-30GH70-IE2R2-K-V15	UCC2000-30GH70-UE2R2-K-V15
Sensing range	45 ... 500 mm	100 ... 2000 mm		
Transducer frequency	approx. 300 kHz	approx. 200 kHz		
Output type	1 voltage output 0 ... 10 V , ascending/descending programmable			
	1 current output 4 ... 20 mA , ascending/descending programmable			

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Diameter D [mm]	30
Length L [mm]	111,3
Thread length l <sub>1</sub> [mm]	74,4
Transducer diameter D <sub>1</sub> [mm]	18
Transducer length l <sub>1</sub> [mm]	26,7
Connector area l <sub>c</sub> [mm]	10,5

### Accessories

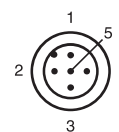
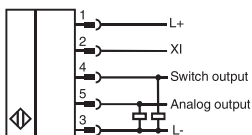
This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
<b>V15-G-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>UC-18/30GM-IR</b>	Interface cable
<b>ULTRA-PROG-IR</b>	Service program

### Electrical Connection



UCC500-30GH70-IE2R2-K-V15  
UCC500-30GH70-UE2R2-K-V15  
UCC2000-30GH70-IE2R2-K-V15  
UCC2000-30GH70-UE2R2-K-V15

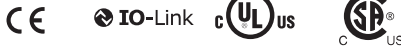


Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Date of issue 04/08/2015

3  
1  
Ultrasonic Sensors, Diffuse Mode Sensors, cylindrical



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	≤ 60 mA
Power consumption	≤ 1 W
Interface type	IO-Link
SIO mode support	✓
Output type	2 Push-pull outputs, short-circuit protected, reverse polarity protection
Rated operational current	200 mA , short-circuit/overload protected
Input/output type	1 synchronization connection, bidirectional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	Stainless steel 1.4305 / AISI 303, TPU, Polyamides
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65/IP67
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, IO-Link and switching output
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Simple pushbutton-based configuration
- Continuous IO-Link accessibility to output status and configuration parameters
- Optional, expanded configuration control via PACTware
- High-visibility LED indicators

#### Model Number

		UC500-30GM-2EP-IO-V15	UC2000-30GM-2EP-IO-V15	UC4000-30GM-2EP-IO-V15	UC6000-30GM-2EP-IO-V15
Sensing range	35 ... 500 mm	●			
	80 ... 2000 mm		●		
	200 ... 4000 mm			●	
	350 ... 6000 mm				●
Transducer frequency	approx. 380 kHz	●			
	approx. 180 kHz		●		
	approx. 85 kHz			●	
	approx. 65 kHz				●
Switching frequency	≤ 11 Hz	●			
	≤ 4 Hz		●		
	≤ 2 Hz			●	
	≤ 1.5 Hz				●

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

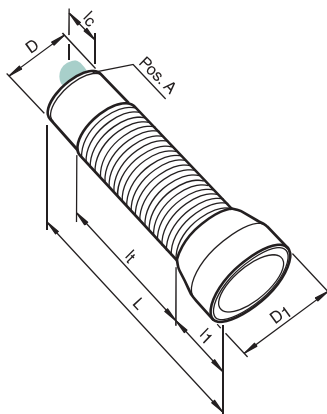
#### Dimensions

Diameter D [mm]	30			
Length L [mm]	81	86	93	
Thread length l <sub>t</sub> [mm]	54	36		
Transducer diameter D <sub>1</sub> [mm]	30	40	73	
Transducer length l <sub>1</sub> [mm]	2	25	32	
Connector area l <sub>c</sub> [mm]	11			

### Accessories

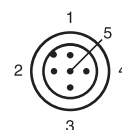
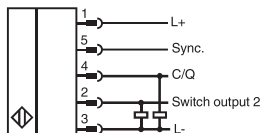
This and more accessories can be found in chapter 3.5 from page 673  
 See pages from 972 ... for cordsets      See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>IO-Link-Master01-USB</b>	IO-Link Master
<b>IO-Link-Master-USB DTM</b>	Communication DTM for use of IO-Link-Master
<b>IODD Interpreter</b>	Software for the integration of IODDs in a frame application (e. g. PACTware)
<b>PACTware 4.X</b>	FDT frame application



### Electrical Connection

- UC500-30GM-2EP-IO-V15
- UC2000-30GM-2EP-IO-V15
- UC4000-30GM-2EP-IO-V15
- UC6000-30GM-2EP-IO-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Operating voltage	10 ... 30 V DC , ripple 10 % <sub>SS</sub> 15 ... 30 V voltage output
No-load supply current	≤ 60 mA
Power consumption	≤ 1 W
Interface type	IO-Link
SIO mode support	✓
Output type	1 push-pull output, short-circuit protected, reverse polarity protected
Rated operational current	200 mA , short-circuit/overload protected
Analog output	Current output 4 mA ... 20 mA or voltage output 0 V ... 10 V configurable
Deviation of the characteristic curve	≤ 0.2 % of full-scale value
Input/output type	1 synchronization connection, bidirectional
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Material	
Housing	Stainless steel 1.4305 / AISI 303, TPU, Polyamides
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65/IP67
Connection type	Device connector M12 x 1 , 5-pin



### Properties

- Up to 6000 mm sensing range versions
- DC, IO-Link and analog output
- Ø30 mm cylindrical housing
- Connector version

### Your Benefit

- Simple pushbutton-based configuration
- Continuous IO-Link accessibility to output status and configuration parameters
- Optional, expanded configuration control via PACTware
- High-visibility LED indicators

#### Model Number

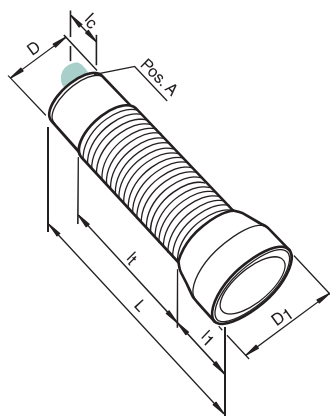
		UC500-30GM-IUEP-IO-V15	UC2000-30GM-IUEP-IO-V15	UC4000-30GM-IUEP-IO-V15	UC6000-30GM-IUEP-IO-V15
Sensing range	green = preferred type	●	●	●	●
	35 ... 500 mm				
	80 ... 2000 mm				
	200 ... 4000 mm				
	350 ... 6000 mm				
Transducer frequency	approx. 380 kHz	●	●	●	●
	approx. 180 kHz				
	approx. 85 kHz				
	approx. 65 kHz				
Resolution	evaluation range [mm]/4000, but ≥ 0.05 mm	●	●	●	●
	evaluation range [mm]/4000, but ≥ 0.35 mm				
Switching frequency	≤ 11 Hz	●	●	●	●
	≤ 4 Hz				
	≤ 2 Hz				
	≤ 1.5 Hz				

#### Approvals and Certificates

UL approval	cULus Listed, General Purpose	●	●	●	●
CSA approval	cCSAus Listed, General Purpose	●	●	●	●

#### Dimensions

Diameter D [mm]	30		
Length L [mm]	81	86	93
Thread length l <sub>t</sub> [mm]	54	36	
Transducer diameter D <sub>1</sub> [mm]	30	40	73
Transducer length l <sub>1</sub> [mm]	2	25	32
Connector area l <sub>c</sub> [mm]	11		



### Accessories

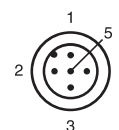
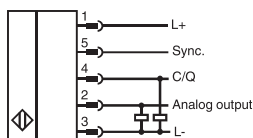
This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

<b>BF 30</b>	Mounting flange, 30 mm
<b>V15-W-2M-PUR</b>	Cable socket, M12, 5-pin, PUR cable
<b>IO-Link-Master01-USB</b>	IO-Link Master

### Electrical Connection



UC500-30GM-IUEP-IO-V15  
UC2000-30GM-IUEP-IO-V15  
UC4000-30GM-IUEP-IO-V15  
UC6000-30GM-IUEP-IO-V15



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

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3  
1  
Ultrasonic Sensors, Diffuse Mode Sensors, cylindrical



### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

#### General Data

Sensing range	200 ... 3000 mm
Transducer frequency	approx. 100 kHz
Operating voltage	10 ... 30 V DC
No-load supply current	≤ 50 mA
Input type	1 program input
Input/output type	1 synchronization connection, bidirectional
Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)
Material	
Housing	Stainless steel 1.4404 / AISI 316L
Transducer	Stainless steel 1.4435 / AISI 316L
Protection degree	IP68 / IP69K
Connection type	5 m cable PUR



### Properties

- 3000 mm sensing range
- DC, analog and switching output versions
- Ø30 mm cylindrical housing
- Cable version

#### Model Number

	green = preferred type		
Output type	1 analog output 4 ... 20 mA 1 switch output, PNP NO/NC, programmable	●	●
Rated operational current	200 mA, short-circuit/overload protected	●	
Resolution	Evaluation range [mm]/3200, however ≥ 0.4 mm		●
Deviation of the characteristic curve	≤ 0.2 % of full-scale value		●
Switching frequency	≤ 2.8 Hz	●	

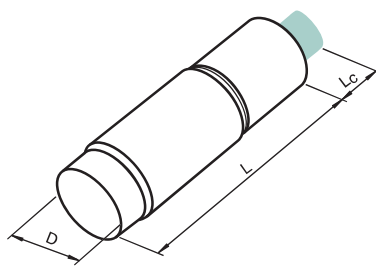
#### Dimensions

Length L [mm]	100
Diameter D [mm]	30
Thread length l <sub>t</sub> [mm]	0
Connector area l <sub>c</sub> [mm]	11

### Accessories

This and more accessories can be found in chapter 3.5 from page 673  
See pages from 972 ... for cordsets    See pages 1068 ... for mounting aids

UC-PROG1	Programming adapter
V15S-G-0,3M-PUR-WAGO	Male cordset, M12, 5-pin, PUR cable with WAGO terminals
MH-30H-01-FA	Mounting aid, 30 mm acc. to EHEDG

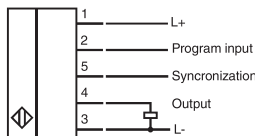


### Electrical Connection



UMC3000-30H-E5-5M-FA  
UMC3000-30H-I-5M-FA

Wire colors in accordance with EN 60947-5-2



1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)





### Properties

- 500 mm sensing range
- AC/DC, 3 relay outputs
- Ø30/75 mm cylindrical housing
- Connector version

### Technical Data

For detailed data and product description refer to the data sheets at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

<b>Model Number</b>	<b>UC500-D1-3K-V7</b>
Sensing range	60 ... 550 mm
Transducer frequency	approx. 380 kHz
Operating voltage	10 ... 253 V DC 20 ... 253 V AC , 47 ... 63 Hz
No-load supply current	< 30 mA with $U_B = 30$ V DC < 110 mA at $U_B = 10$ V DC < 25 mA at $U_B = 220$ V AC
Output type	3 relay outputs, normally open/closed, selectable
Contact loading	253 V AC/150V DC, 3 A (ohm. load)
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Material	
Housing	cover: PC housing: PBT threaded flange: stainless steel installation connector/cable socket: PETP
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Protection degree	IP65
Connection	90° V7 (7-pin) cable connector Wire cross section: $\leq 1.5$ mm <sup>2</sup> cable diameter Ø7 ... 9 mm

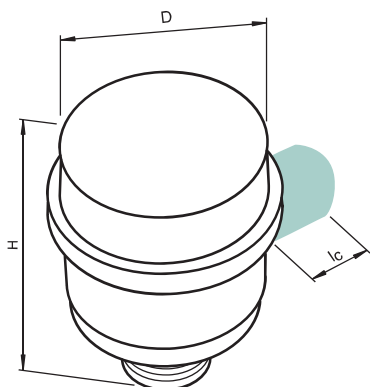


### Approvals and Certificates

CCC approval	Certified by China Compulsory Certification (CCC)
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### Dimensions

Height H [mm]	106
Diameter D [mm]	75
Connector area $l_c$ [mm]	79

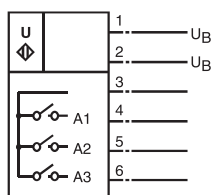


### Electrical Connection



UC500-D1-3K-V7

Normsymbol/Anschluss:



### Connector V7



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