



2026

Ultrasonic Sensors

Catalogue

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Ultrasonic sensor application

超声波传感器应用

超声波传感器在非接触定位和距离测量的应用中表现出优异的性能。不受颜色和形状的影响，不受被测目标材质的闲置，在工控自动化场景中得到广泛的应用。

Ultrasonic sensor show excellent performance in the application of non-contact positioning and distance measurement. Its not affected by color and shape, and is not limited by the material of the measured object, so its widely used in industrial automation scenes.

超声波传感器的目标市场

- Automobile industry
- Packaging Mechinery
- Mobile equipment
- Process equipment
- New energy manufacturing equipment
- Material handling
- Textile machinery
- Printing, paper and post-press processing
- Gate control



安全防护控制
Anti-collision control



液位料位检测
Level control for liquid



堆垛高度控制
Stacking height control



质量控制
Quality control



定位
Position control



透明物体检测
Transparencny detect



张力控制
Loop control



机械臂定位
Robotic sensing



装箱填料控制
Crate inspection



卷径检测
Diameter checking

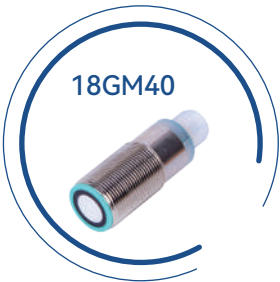


吹膜机控制
Control for foil extruder

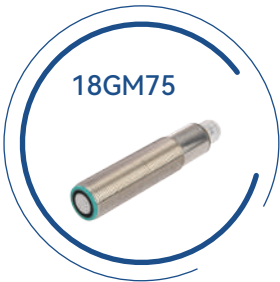


双张检测
Double detection

PRODUCT CATALOG 产品目录



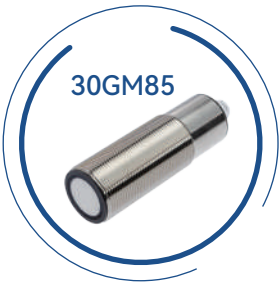
18GM40



18GM75



30GM85



30GM85



30GM85



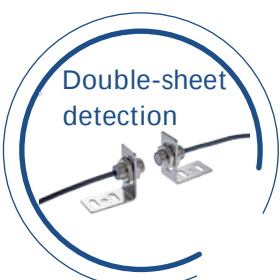
30GM85



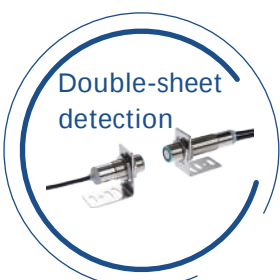
F77



F40



Double-sheet detection



Double-sheet detection



Tag sensor



Material testing



AGV obstacle avoidance

Product Naming Rules

Code	U	B	1000	18	GM	75	U10	V1	A	200	A/B
Number	1	2	3	4	5	6	7	8	9	10	11

1	U	Ultrasonic sensor									
2	Type	B	Cylindrical basic					BE	Thru-Beam		
		B	Standard					A	Intelligent		
		DB(A/C)	Chemical resistance					T	Custom made		
			double sheet detection					L	Low power consumption		
3	Detection range	120	120mm					300	300mm		
4	Shell	12	Cylinder, M12mm					F	Squre case		
		30	Cylinder, M30mm					W	90° Elbow		
5	Housing Material (Only for Cylinder)	GM	Metal					GK	plastic		
6	Length and shape of shell	45,50,55,60 Represents the length of different shells									
7	Electrical output	E0	1x3 wire, NPN Switching, NO					I	Analog current, 4-20mA		
		E1	1x3 wire, NPN Switching, NC					U5 / U10	Analog current, 0-5V / 0-10V		
		E2	1x3 wire, PNP Switching, NO					R2 / R4	Interface RS232 / RS485		
		E3	1x3 wire, PNP Switching, NC					8B	8 Digits output		
		E4	1x3 wire, NPN Switching, NO / NC					H3	External processing unit		
		E5	1x3 wire, PNP Switching, NO / NC					TTL	Interface TTL232, command response		
		E6	2x3 wire, PNP Switching, NO / NC					TTL1	Interface TTL232,keep firing		
		E7	2x3 wire, NPN Switching, NO / NC					3E0	3 chanel's NPN switching		
		E8	1x3 wire, NPN Switching, Delay mode					IU	Analog I and two output U		
		E9	1x3 wire, PNP Switching, Delay mode					IE0	Analog current + NPN switching, 2 channels		
		A2	2x3 wire, PNP Switching, on NO + one NC					IE2	Analog current + PNP switching, 2 channels		
8	Connecting	VC	cable					V1	M12*1 four-pin tail plug		
		VC5	5-core cable					V3	M12*1 four-pin tail plug, custom pin mould		
		V31	4-pin M8 tail plug					V15	M12*1 five-pin tail plug		
		LXX	Custom cables					V16	plug with cord		
9	Complete series of category codes	T:	Synchronisation								
		S:	dual output								
		DM:	Short-term analogue								
10	200	Transducer Frequency									
11	Others	A	Elbow								
		B	Black								



主要特征

- >M18安装螺纹套管,全长最短仅40mm
- >盲区小,声锥小,适合近距离精细检测

基本特征

- >1个nnp或者pnp开关量输出
- >模拟电压输出0-5/10V或者模拟电流输出4-20mA
- >可通过串口升级更改输出
- >通过学习线实现检测距离设置
- >温度补偿

Advanced Features

- > M18 Cylindrical; Shortest length is 40mm
- > Short blind area; Small sound cone; Suitable for close-range fine detection.

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > The teach-in function is realized by the gray line
- > Temperature compensation

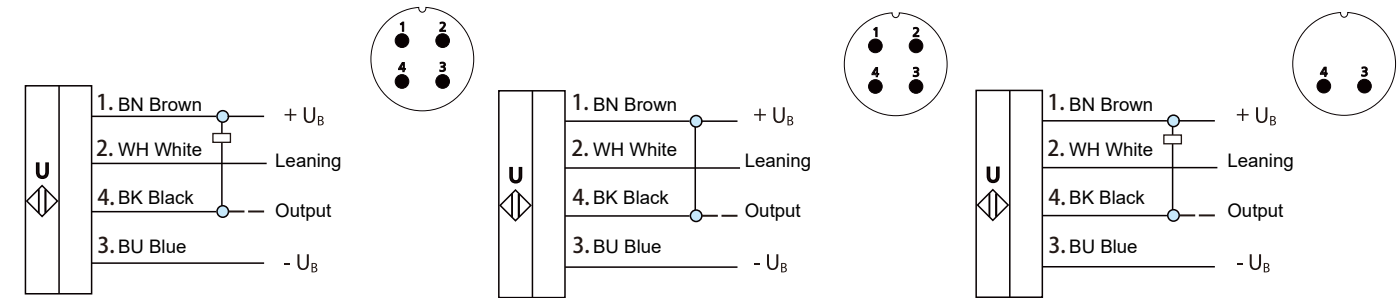
18GM40



Technical DataSheet

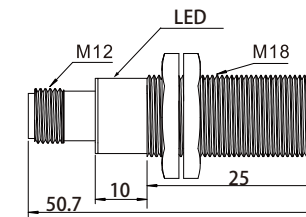
Model	UB150-18GM40-E4-V3	UB350-18GM40-E4-V3	UB500-18GM40-E4-V3	
	UB150-18GM40-E5-V3	UB350-18GM40-E5-V3	UB500-18GM40-E5-V3	
	UB150-18GM40-E8-V3	UB350-18GM40-E8V3	UB500-18GM40-E8-V3	
	UB150-18GM40-E9-V3	UB350-18GM40-E9-V3	UB500-18GM40-E9-V3	
	UB150-18GM40-I-V3	UB350-18GM40-I-V3	UB500-18GM40-I-V3	
	UB150-18GM40-U5-V3	UB350-18GM40-U5-V3	UB500-18GM40-U5-V3	
	UB150-18GM40-U10-V3	UB350-18GM40-U10-V3	UB500-18GM40-U10-V3	
Adjustment range	25-150mm	35-350mm	45-500mm	
Measure range	20-150mm	30-350mm	40-500mm	
Angle	±6°	±7°	±7°	
Repeatability	± 1% of full-scale value	± 1%of full-scale value	± 1%of full-scale value	
Converter frequency	Approximately 400 kHz	Approximately 200 kHz	Approximately 200 kHz	
Response delay	≤ 50ms	≤ 50ms	≤ 50ms	
Operating voltage	20-30VDC	20-30VDC	20-30VDC	
Power-Up Timer	<500ms			
Operating voltage	15-30VDC			
LED red light	no - No object detected	flashes - No object detected at teaching status		
LED yellow light	no - Object detected en A1-A2 area	flashes - Object detected at teaching status		
Input format	A1, learning line connected to UBBA2, learning line connected to UB			
Lag range	1% of the set switch distance			
No-load current	≤ 30mA			
Repeatability	± 1% of full-scale value			
Material	Copper nickel plating, plastic fittings, glass filled epoxy resin			
Protective class	IP67			
Connection	4 pins M12 connector			
Ambient temperature	-25℃~+70℃(248~343K)			
Storage temperature	-40℃~+85℃(233~358K)			
Temperature drift	± 2% of full-scale value			
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode	TTL/TTL1	TTL232interface
	E5/E9	one switching output NPN, NO/NC/ Delay mode		
	I	one analog current output, 4-20mA		
	U5/U10	one analog voltage output, 0-5V/0-10V		

Electric wiring

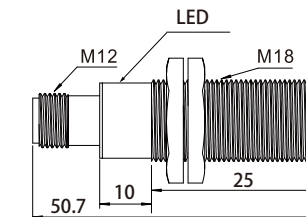


Core colors in accordance with EN 60947-5-2.

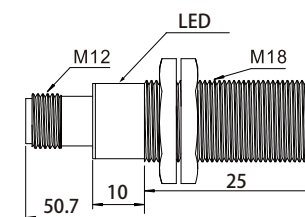
Dimension



UB150 series

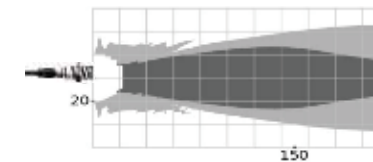


UB350 series



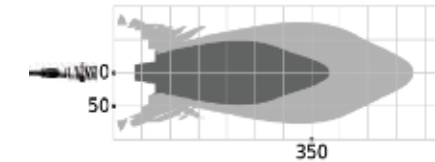
UB500 series

Reference curve



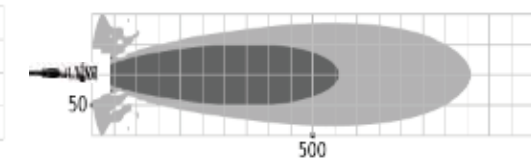
Curve 1: Flat 100x100mm
Curve 2: Round bar Ø25mm

UB150 series



Curve 1: Flat 100x100mm
Curve 2: Round bar Ø25mm

UB350 series

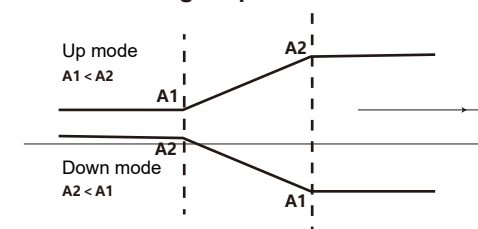


Curve 1: Flat 100x100mm
Curve 2: Round bar Ø25mm

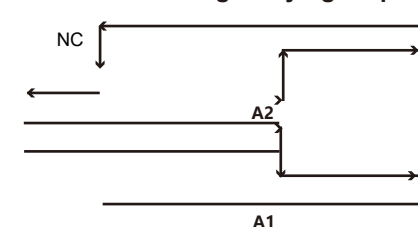
UB500 series

Output mode

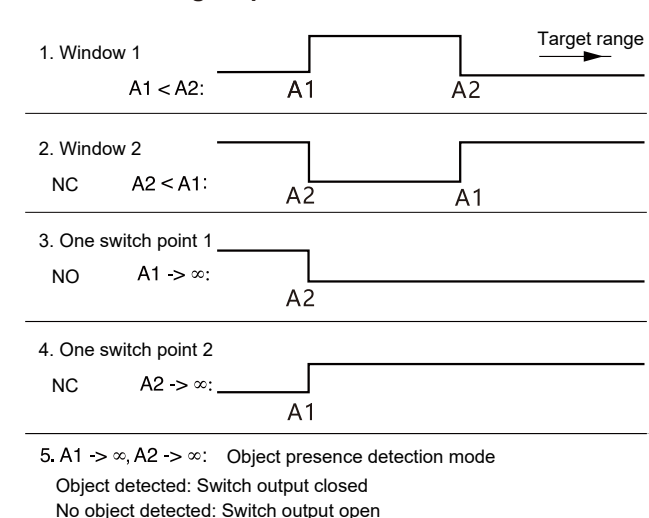
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E8/E9

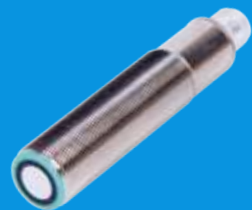


Five switching output modes of E4/E5



18GM75

Single Output



Advanced Features

- > M18 Cylindrical
- > Easily installation

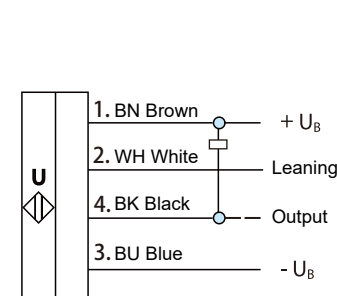
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

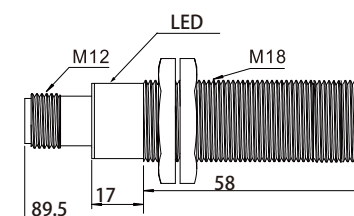
Model	UB1000-18GM75-E4-V1			
	UB1000-18GM75-E5-V1			
	UB1000-18GM75-E8-V1			
	UB1000-18GM75-E9-V1			
	UB1000-18GM75-I-V1			
	UB1000-18GM75-U5-V1			
	UB1000-18GM75-U10-V1			
	UB1000-18GM75-TTL-V1,UB1000-18GM75-TTL1-V1			
Measure range	60-1000mm			
Adjustment range	70-1000mm			
Angle	±7°			
Repeatability	±1% of full-scale value			
Lag range	1% of the set switch distance			
Transducer frequency	200KHz			
Response time	100ms			
Operating voltage	9-30VDC			
LED red light	Constant light: Learning status No target detected Flashing: Error			
LED yellow light	Constant on: Switch status indicator Flashing: Learning status Target detected			
LED blue light	Constant on: Learning mode (5 minutes before power-on) Flashing: Entering learning mode			
LED green light	Constant light: Power connected			
No-load current	≤35mA			
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB			
Material	Copper nickel plating, plastic fittings, glass filled epoxy resin			
Protective class	IP67			
Connection	4 pins M12 connector			
Ambient temperature	-25℃~+70℃(248~343K)			
Storage temperature	-40℃~+85℃(233~358K)			
Temperature drift	±2% of full scale value (with built-in temperature compensation).			
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode	TTL/TTL1	TTL232 interface
	E5/E9	one switching output NPN, NO/NC/ Delay mode		
	I	one analog current output, 4-20mA		
	U5/U10	one analog voltage output, 0-5V/0-10V		

Electric wiring



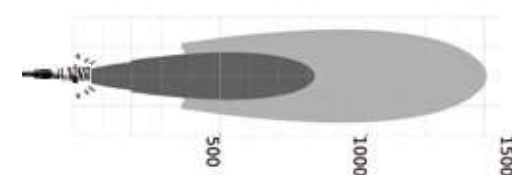
Core colors in accordance with EN 60947-5-2.

Dimension



UB1000 series

Reference curve

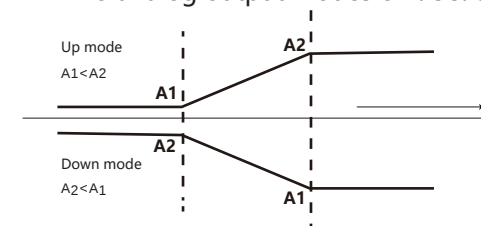


Curve 1: Flat 100x100mm
Curve 2: Round bar 25mm

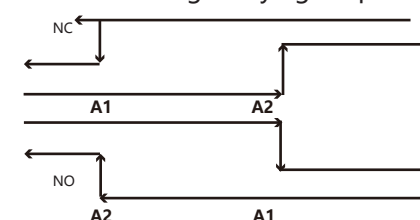
UB1000 series

Output mode

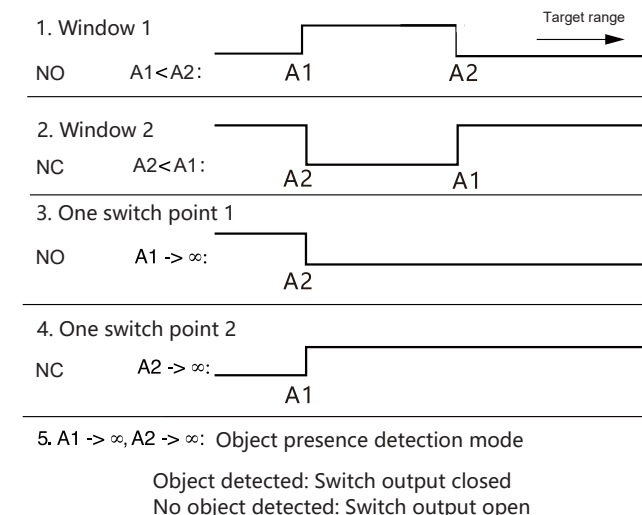
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9

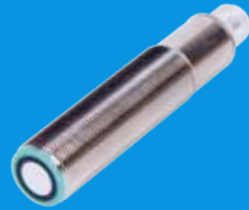


Five switching output modes of E4/E5



18GM75

Dual Output



Advanced Features

- > M18 Cylindrical
- > Easily installation

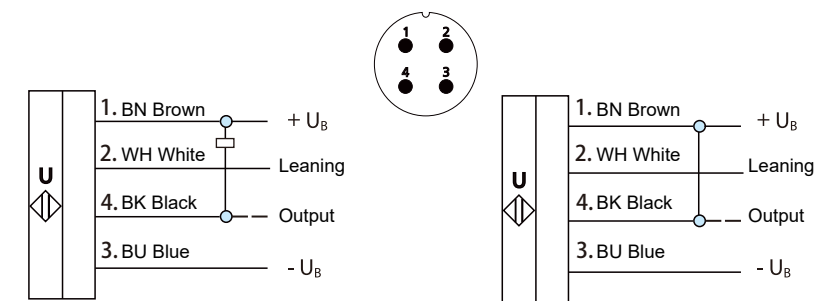
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

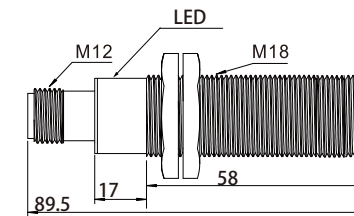
Model	UB1000-18GM75-E6-V15	
	UB1000-18GM75-E7-V15	
	UB1000-18GM75-IE4-V15	
	UB1000-18GM75-IE5-V15	
	UB1000-18GM75-U5E4-V15	
	UB1000-18GM75-U5E5-V15	
	UB1000-18GM75-U10E4-V15	
	UB1000-18GM75-U10E5-V15	
Measure range	60-1000mm	
Adjustment range	70-1000mm	
Angle	±7°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Transducer frequency	200KHz	
Response time	100ms	
Operating voltage	9-30VDC	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch 1 status indicator Flashing: Target detected during A1 learning	
LED blue light	Constant on: Switch 2 status indicator Flashing: Target detected during A2 learning	
LED green light	Constant light: Power connected	
No-load current	≤35mA	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
Material	Copper nickel plating, plastic fittings, glass filled epoxy resin	
Protective class	IP67	
Connection	4 pins M12 connector	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E6/E7	Two PNP channels/two NPN channels
	IE4/IE5	4-20mA, NPN / 4-20mA, PNP
	U5E4/U5E5	0-5V, NPN / 0-5V, PNP
	U10E4/U10E5	0-10V, NPN / 0-10V, PNP

Electric wiring



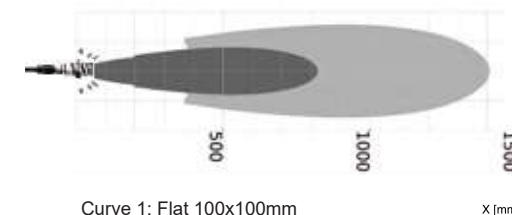
Core colors in accordance with EN 60947-5-2.

Dimension



UB1000 series

Reference curve

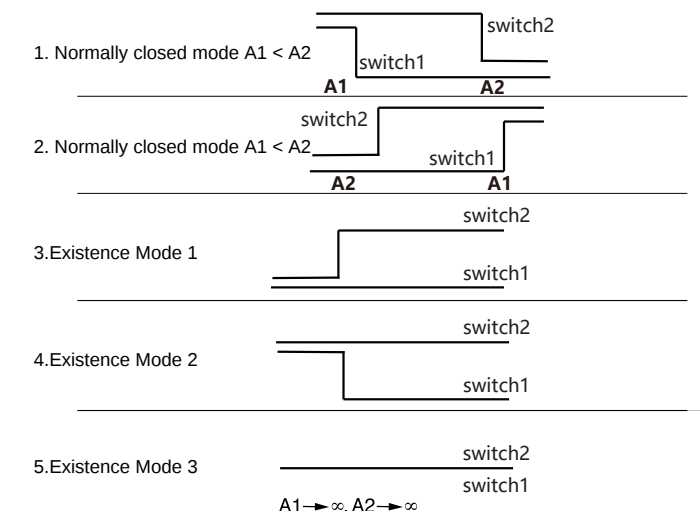
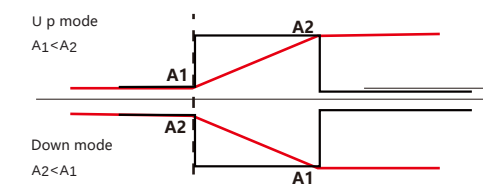


Curve 1: Flat 100x100mm
Curve 2: Round bar 25mm

UB1000 series

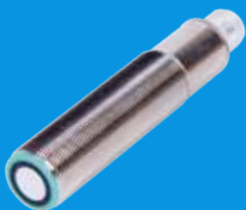
Output mode

Two output modes for IE4/IE5/U5E4/U5E5/U10E4/U10E5 Five output modes for E6/E7 dual switch quantities



18GM75

Synchronisation



Advanced Features

- > M18 Cylindrical
- > Easily installation

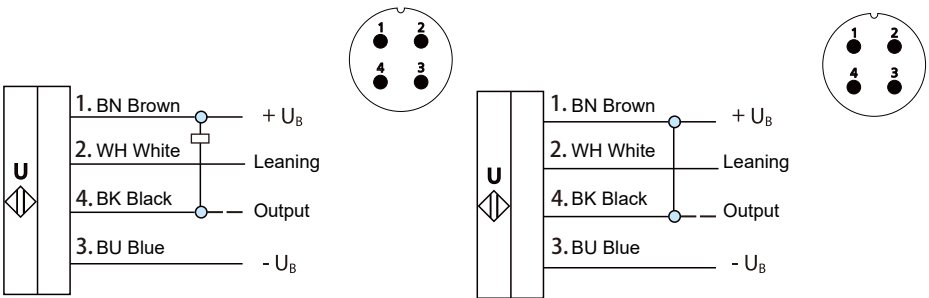
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

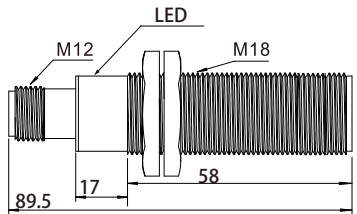
Model		UB1000-18GM75-E4-V15
		UB1000-18GM75-E5-V15
		UB1000-18GM75-E8-V15
		UB1000-18GM75-E9-V15
		UB1000-18GM75-I-V15
		UB1000-18GM75-U5-V15
		UB1000-18GM75-U10-V15
		UB1000-18GM75-TTL-V15,UB1000-18GM75-TTL1-V15
Measure range	60-1000mm	
Adjustment range	70-1000mm	
Angle	±7°	
Repeatably	±1% of full-scale value	
Lag range	1% of the set switch distance	
Transducer frequency	200KHz	
Response time	100ms×N	
Operating voltage	9-30VDC	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch status indicator Flashing: Entering learning mode	
LED green light	Constant light: Power connected Flashing: Target detected in learning mode	
No-load current	≤35mA	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
Input/Output	A synchronous input/output	
Material	Copper nickel plating, plastic fittings, glass filled epoxy resin	
Protective class	IP67	
Connection	5 pins M12 connector	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E4/E8	1 switch output NPN, NO/NC/hysteresis mode
	E5/E9	1 switch output PNP, NO/NC/hysteresis mode
	I	1 analogue current output, 4-20 mA
	U5/U10	1 analogue voltage output, 0-5V/0-10V

Electric wiring



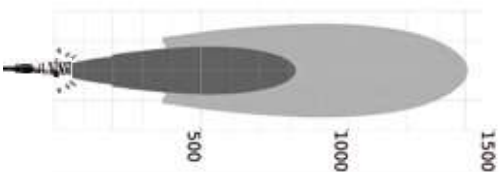
Core colors in accordance with EN 60947-5-2.

Dimension



UB1000 series

Reference curve

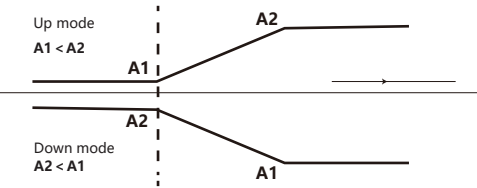


Curve 1: Flat 100x100mm
Curve 2: Round bar 25mm

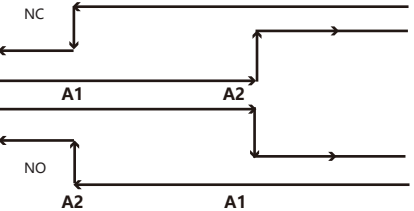
UB1000 series

Output mode

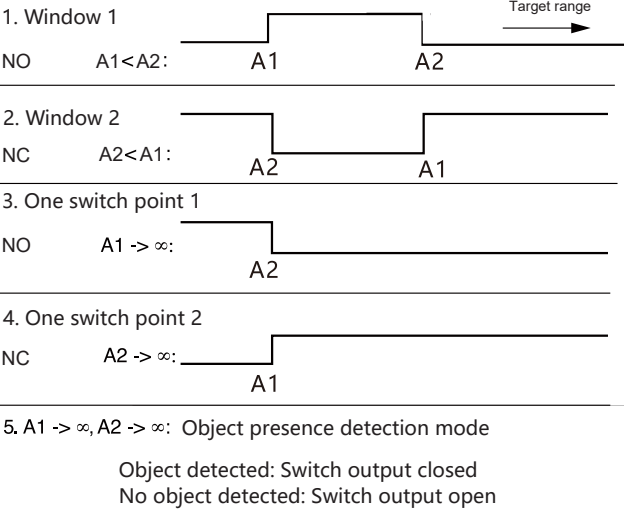
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9

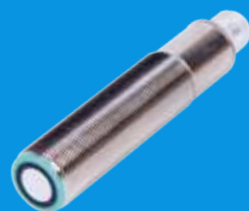


Five switching output modes of E4/E5



18GM75

RS485



Advanced Features

- > M18 Cylindrical
- > Easily installation

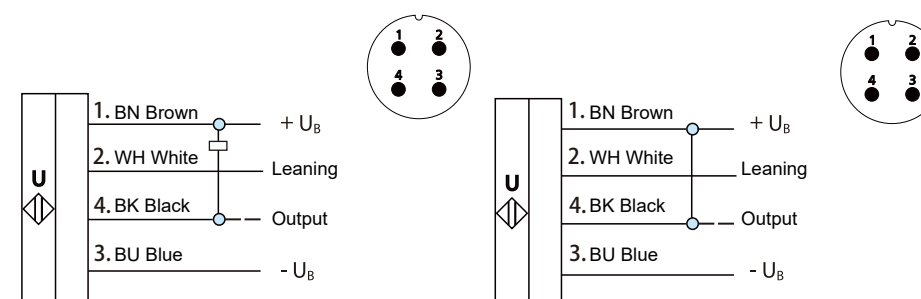
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

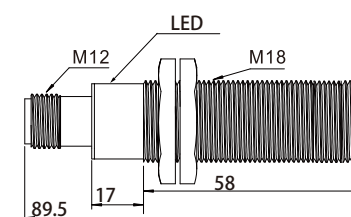
Model	UB1000-18GM75-R4E4-V15	
	UB1000-18GM75-R4E5-V15	
	UB1000-18GM75-R4E5-V15	
Measure range	60-1000mm	
Adjustment range	70-1000mm	
Angle	$\pm 7^\circ$	
Repeatability	$\pm 0.3\%$ of full-scale value	
Lag range	1% of the set switch distance	
Transducer frequency	200KHz	
Response time	100ms	
Operating voltage	9-30VDC	
LED red light	Working status: Error	
LED yellow light	Chang Liang: Target detected	
LED blue light	Received command 485	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Output method	RS485 interface, NPN/PNP; MODBUS485	
Material	Copper nickel plating, plastic fittings, glass filled epoxy resin	
Protective class	IP67	
Connection	4 pins M12 connector	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	R4E4 R4E5	RS485 interface + NPN
	R4	RS485 interface (Modbus protocol)

Electric wiring



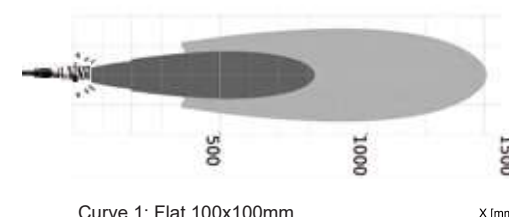
Core colors in accordance with EN 60947-5-2.

Dimension



UB1000 series

Reference curve



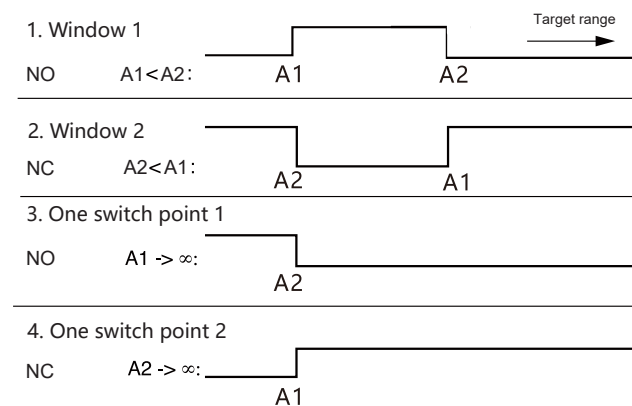
Curve 1: Flat 100x100mm
Curve 2: Round bar 25mm

UB1000 series

Output mode

E Switch Mode

By writing the values of points A1 and A2 through the RS485 interface, the following five switch modes can be set:

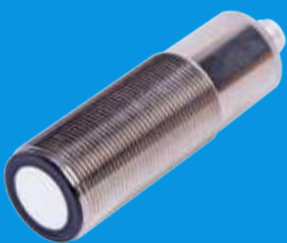


5. A1 -> ∞, A2 -> ∞: Object presence detection mode

Object detected: Switch output closed
No object detected: Switch output open

30GM85

Single Output



Advanced Features

- > M30 Cylindrical
- > Synronous function

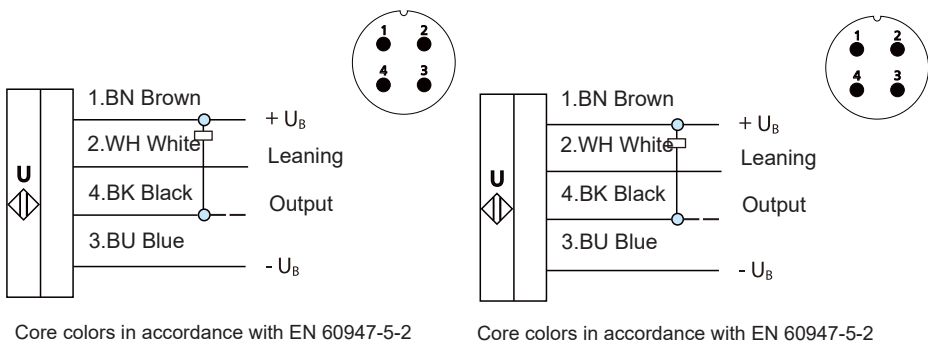
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

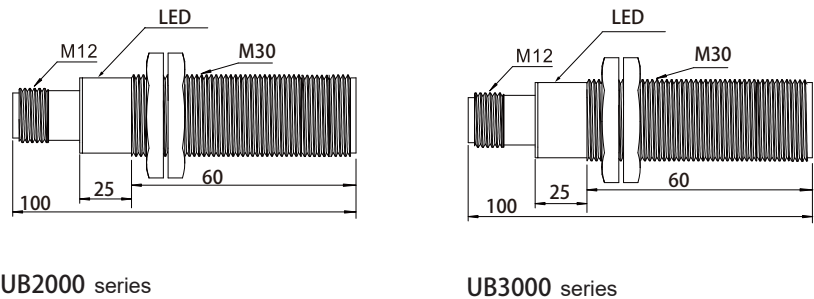
Technical Data Sheet

Model	UB2000-30GM85-E4-V1	UB3000-30GM85-E4-V1
	UB2000-30GM85-E5-V1	UB3000-30GM85-E5-V1
	UB2000-30GM85-E8-V1	UB3000-30GM85-E8-V1
	UB2000-30GM85-E9-V1	UB3000-30GM85-E9-V1
	UB2000-30GM85-I-V1	UB3000-30GM85-I-V1
	UB2000-30GM85-U5-V1	UB3000-30GM85-U5-V1
	UB2000-30GM85-U10-V1	UB3000-30GM85-U10-V1
	UB2000-30GM85-TTL-V1,UB2000-30GM85-TTL1-V1	UB3000-30GM85-TTL-V1,UB3000-30GM85-TTL1-V1
Transducer frequency	200KHz	200KHz
Measure range	120-2000mm	180-3000mm
Adjustment range	130-2000mm	190-3000mm
Angle	$\pm 5^\circ$	$\pm 8^\circ$
Repeatability	$\pm 1\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 110\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Constant light: Learning status No target detected Flashing: Error	
LED yellow light	Constant on: Switch status indicator Flashing: Learning status Target detected	
LED blue light	Constant on: Learning mode (5 minutes before power-up) Flashing: Entering learning mode	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V1 connector (M121), 4 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode
	E5/E9	one switching output NPN, NO/NC/ Delay mode
	I	one analog current output, 4-20mA
	U5/U10	one analog voltage output, 0-5V/0-10V

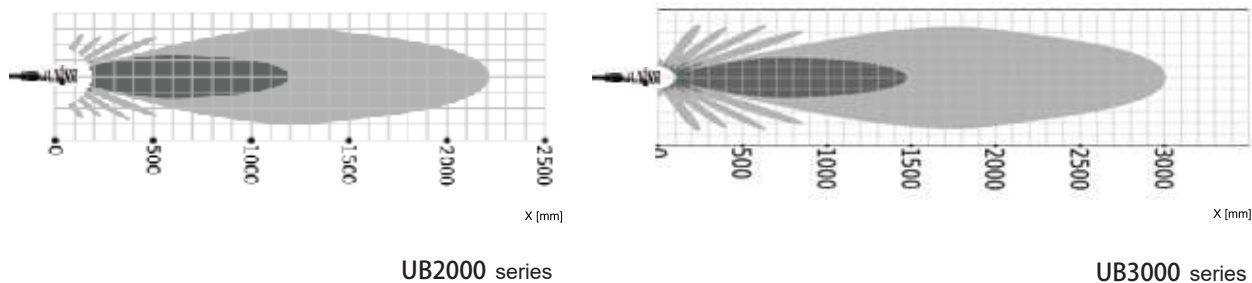
Electric wiring



Dimension

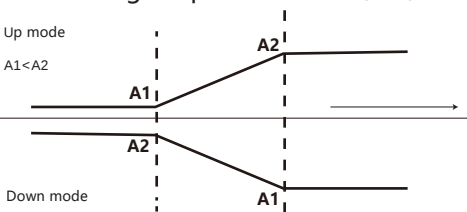


Reference curve

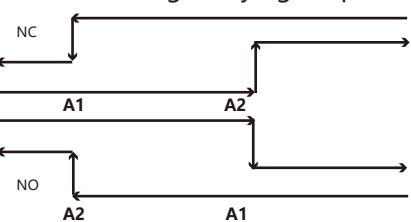


Output mode

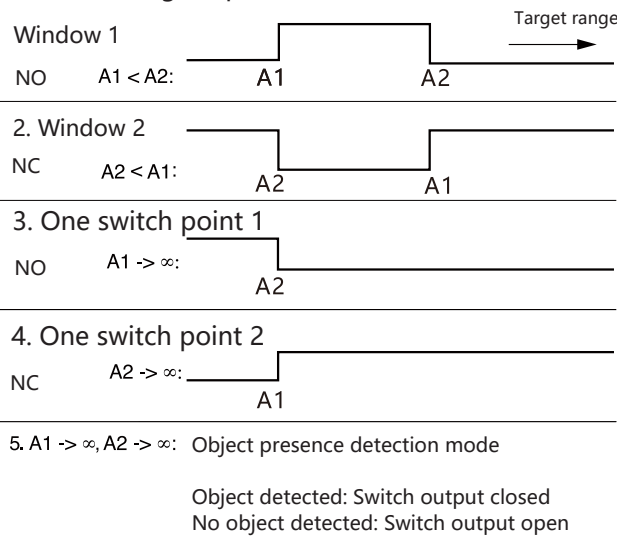
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9



Five switching output modes of E 4 / E 5 .



30GM85

Single Output



Advanced Features

- > M30 Cylindrical
- > Synronous function

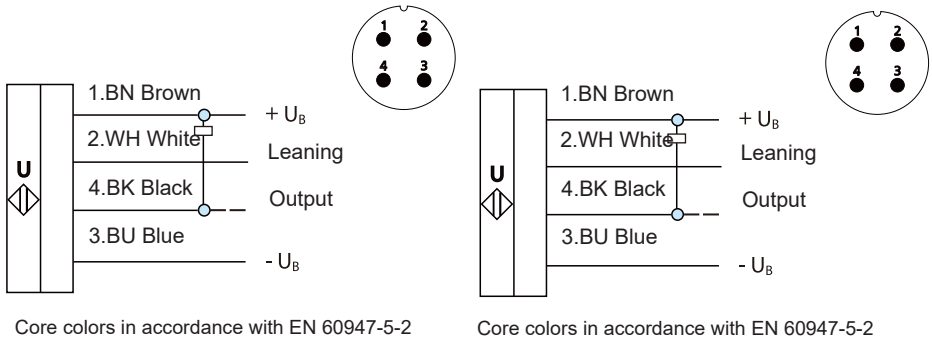
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

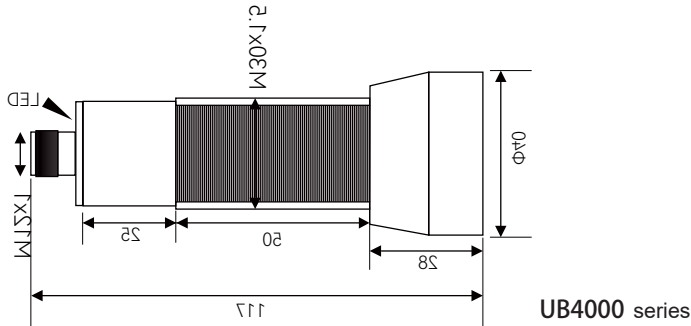
Technical Data Sheet

Technical Data Sheet		
Model		UB4000-30GM85-E4-V1
		UB4000-30GM85-E5-V1
		UB4000-30GM85-E8-V1
		UB4000-30GM85-E9-V1
		UB4000-30GM85-I-V1
		UB4000-30GM85-U5-V1
		UB4000-30GM85-U10-V1
		UB4000-30GM85-TTL-V1,UB4000-30GM85-TTL1-V1
Transducer frequency	75KHz	
Measure range	200-4000mm	
Adjustment range	130-2000mm	
Angle	±8°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	≤150ms	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Constant light: Learning status No target detected Flashing: Error	
LED yellow light	Constant on: Switch status indicator Flashing: Learning status Target detected	
LED blue light	Constant on: Learning mode (5 minutes before power-up) Flashing: Entering learning mode	
LED green light	Constant light: Power connected	
No-load current	≤35mA	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V1 connector (M121), 4 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode
	E5/E9	one switching output NPN, NO/NC/ Delay mode
	I	one analog current output, 4-20mA
	U5/U10	one analog voltage output, 0-5V/0-10V

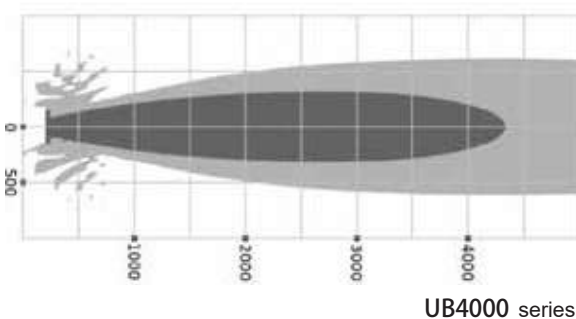
Electric wiring



Dimension

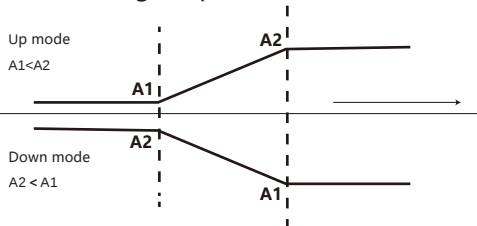


Reference curve

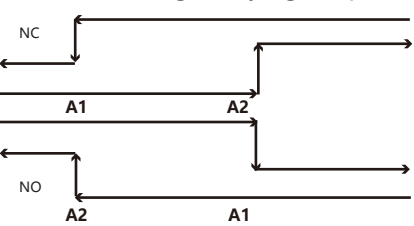


Output mode

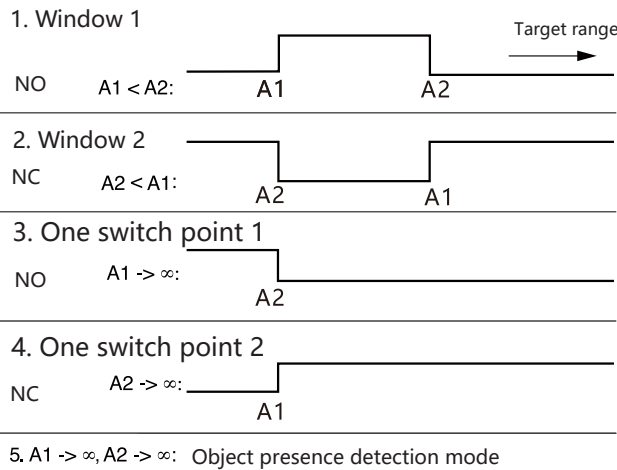
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8/ E 9



Five switching output modes of E 4 / E 5



Object detected: Switch output closed
No object detected: Switch output open

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or
Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

19

Core colors in accordance with EN 60947-5-2

[illegible]

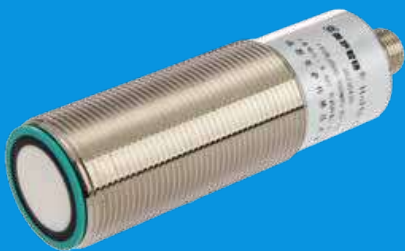
UB6000series

The diagram shows four horizontal lines representing different components or flows. From top to bottom, they are labeled NC, A1, A2, and NO. Arrows indicate the direction of flow or relationship. A1 and A2 are connected by a double-headed arrow, suggesting a bidirectional relationship. NC and NO are connected by a double-headed arrow, suggesting a bidirectional relationship. The diagram also shows a flow from NC to A1 and from A2 to NO.

Object detected: Switch output closed
No object detected: Switch output open

30GM85

Synchronisation



Advanced Features

- > M30 Cylindrical
- > Synronous function

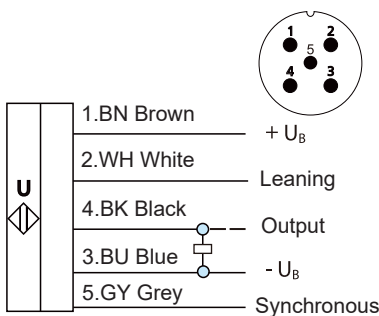
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

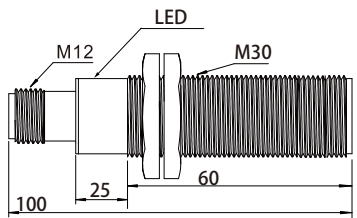
Model		UB2000-30GM85-E4-V15
		UB2000-30GM85-E5-V15
		UB2000-30GM85-E8-V15
		UB2000-30GM85-E9-V15
		UB2000-30GM85-I-V15
		UB2000-30GM85-U5-V15
		UB2000-30GM85-U10-V15
		UB2000-30GM85-TTL-V15,UB2000-30GM85-TTL1-V15
Transducer frequency	180KHz	
Measure range	120-2000mm	
Adjustment range	130-2000mm	
Angle	±5°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	110 ms×N	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch status indicator Flashing: Entering learning mode	
LED green light	Constant light: Power connected Flashing: Target detected in learning mode	
No-load current	≤35mA	
Input/Output	A synchronous input/output	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 4 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode
	E5/E9	one switching output NPN, NO/NC/ Delay mode
	I	one analog current output, 4-20mA
	U5/U10	one analog voltage output, 0-5V/0-10V

Electric wiring



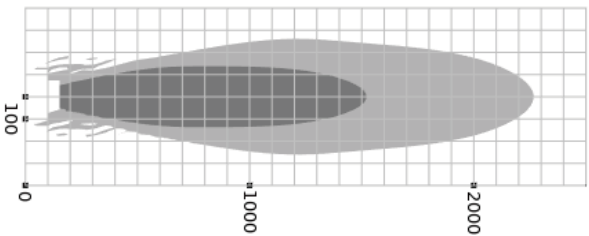
Core colors in accordance with EN 60947-5-2

Dimension



UB2000 series

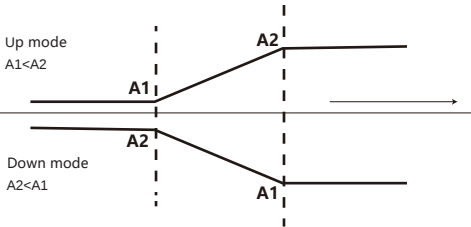
Reference curve



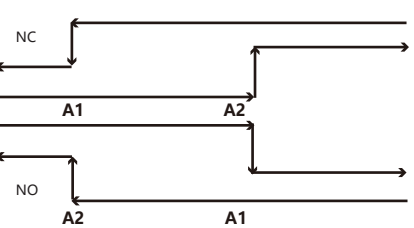
UB2000 series

Output mode

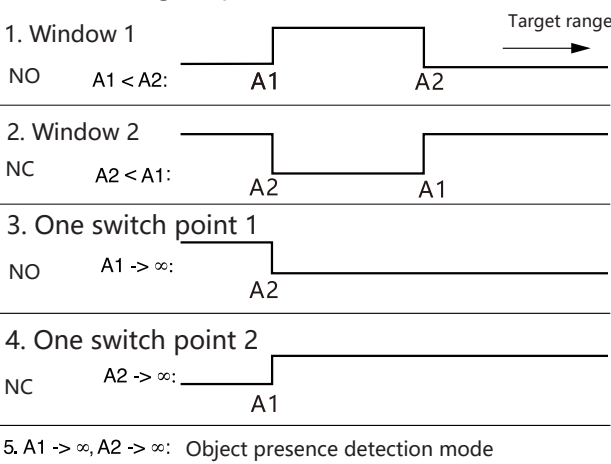
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9



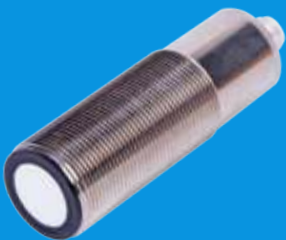
Five switching output modes of E 4 / E 5



Object detected: Switch output closed
No object detected: Switch output open

30GM85

Synchronisation



Advanced Features

- > M30 Cylindrical
- > Synchronous function

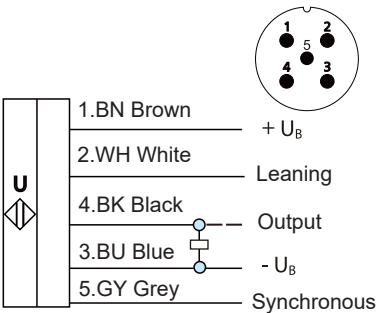
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

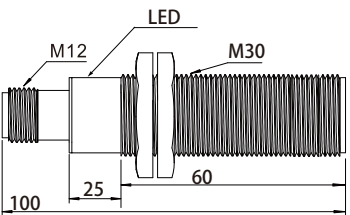
Model		UB3000-30GM85-E4-V15
		UB3000-30GM85-E5-V15
		UB3000-30GM85-E8-V15
		UB3000-30GM85-E9-V15
		UB3000-30GM85-I-V15
		UB3000-30GM85-U5-V15
		UB3000-30GM85-U10-V15
		UB3000-30GM85-TTL-V15,UB3000-30GM85-TTL1-V15
Transducer frequency	112KHz	
Measure range	180-3000mm	
Adjustment range	190-3000mm	
Angle	±8°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	110 ms×N	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch status indicator Flashing: Entering learning mode	
LED green light	Constant light: Power connected Flashing: Target detected in learning mode	
No-load current	≤35mA	
Input/Output	A synchronous input/output	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 4 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift		±2% of full scale value (with built-in temperature compensation).
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode
	E5/E9	one switching output NPN, NO/NC/ Delay mode
	I	one analog current output, 4-20mA
	U5/U10	one analog voltage output, 0-5V/0-10V

Electric wiring



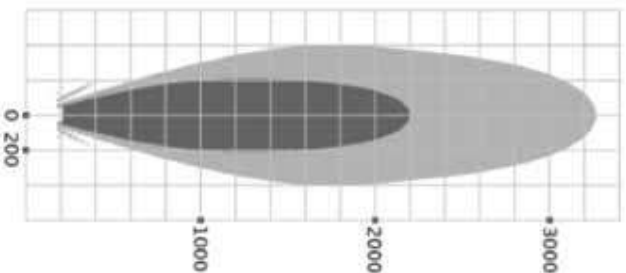
Core colors in accordance with EN 60947-5-2

Dimension



UB3000 series

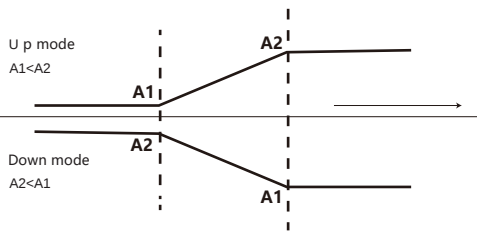
Reference curve



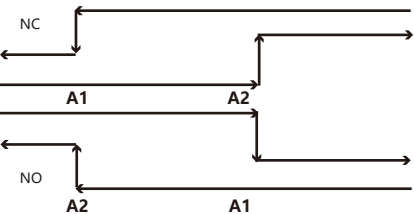
UB3000 series

Output mode

Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9



Five switching output modes of E 4 / E 5

- Window 1
NO A1 < A2: A1 A2 Target range
- Window 2
NC A2 < A1: A2 A1
- One switch point 1
NO A1 -> ∞: A2
- One switch point 2
NC A2 -> ∞: A1
- A1 -> ∞, A2 -> ∞: Object presence detection mode

Object detected: Switch output closed
No object detected: Switch output open

30GM85

Synchronisation



Advanced Features

- > M30 Cylindrical
- > Synronous function

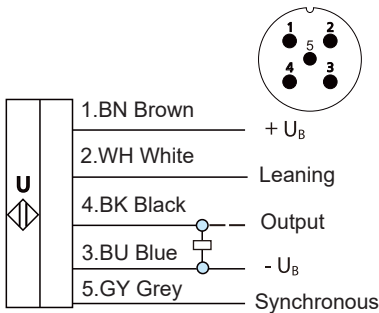
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

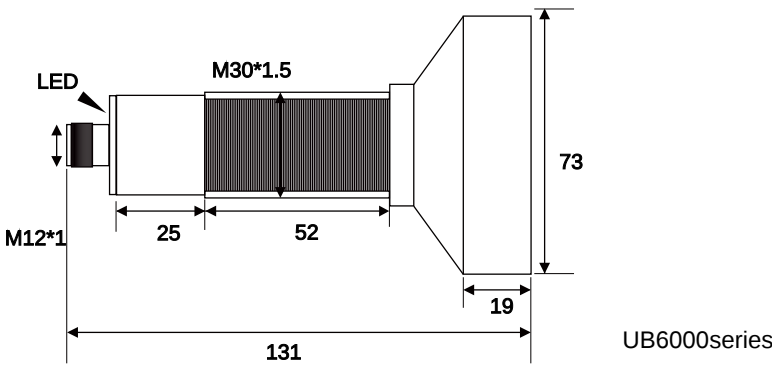
Model		UB6000-30GM85-E4-V15
		UB6000-30GM85-E5-V15
		UB6000-30GM85-E8-V15
		UB6000-30GM85-E9-V15
		UB6000-30GM85-I-V15
		UB6000-30GM85-U5-V15
		UB6000-30GM85-U10-V15
		UB6000-30GM85-TTL-V15,UB6000-30GM85-TTL1-V15
Transducer frequency	65KHz	
Measure range	350-6000mm	
Adjustment range	370-6000mm	
Angle	±10°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	≤300ms	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch status indicator Flashing: Entering learning mode	
LED green light	Constant light: Power connected Flashing: Target detected in learning mode	
No-load current	≤35mA	
Input/Output	A synchronous input/output	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 4 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode
	E5/E9	one switching output NPN, NO/NC/ Delay mode
	I	one analog current output, 4-20mA
	U5/U10	one analog voltage output, 0-5V/0-10V

Electric wiring

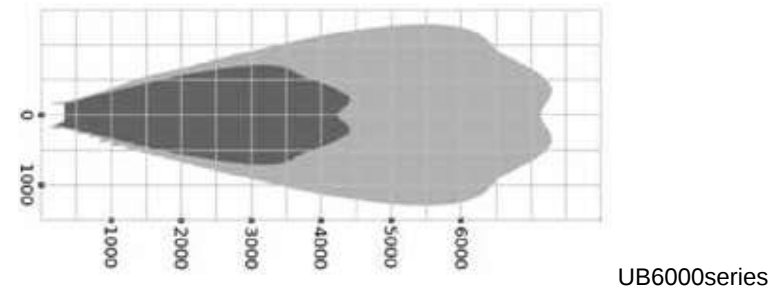


Core colors in accordance with EN 60947-5-2

Dimension

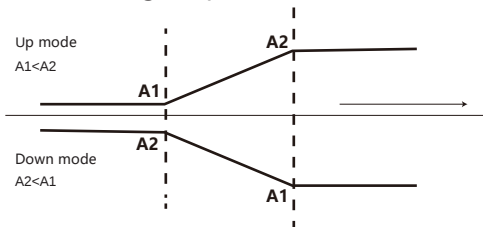


Reference curve

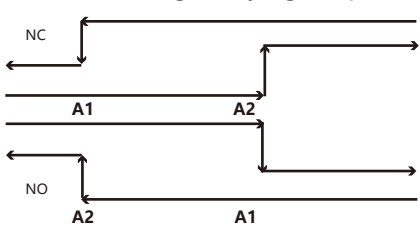


Output mode

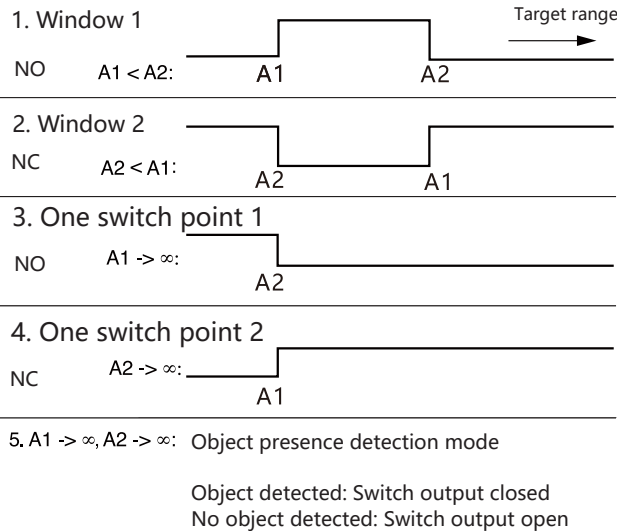
Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9



Five switching output modes of E 4 / E 5



30GM85

Dual Output



Advanced Features

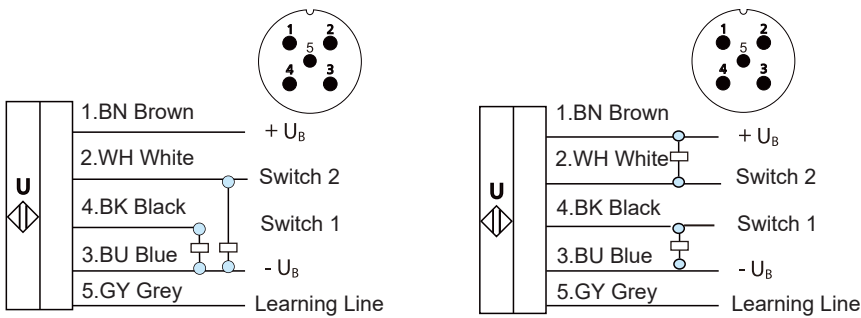
- > M30 Cylindrical
- > Synchronous function

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

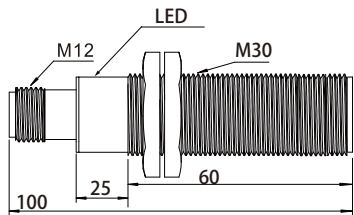
Technical Data Sheet		
Model	UB2000-30GM85-E6-V15	
	UB2000-30GM85-E7-V15	
	UB2000-30GM85-IE4-V15	
	UB2000-30GM85-IE5-V15	
	UB2000-30GM85-U5E4-V15	
	UB2000-30GM85-U5E5-V15	
	UB2000-30GM85-U10E4-V15	
	UB2000-30GM85-U10E5-V15	
Transducer frequency	120-2000mm	
Measure range	120-2000mm	
Adjustment range	130-2000mm	
Angle	$\pm 5^\circ$	
Repeatability	$\pm 1\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 110\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Working status: Error Learning status, flashing: Target not detected	
LED blue light	Constant on: Switch 2 status indicator Flashing: Target detected during learning of A2	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	E6/E7	Two PNP channels/two NPN channels
	IE4/IE5	4-20mA, NPN / 4-20mA, PNP
	U5E4/U5E5	0-5V, NPN / 0-5V, PNP
	U10E4/U10E5	0-10V, NPN / 0-10V, PNP

Electric wiring



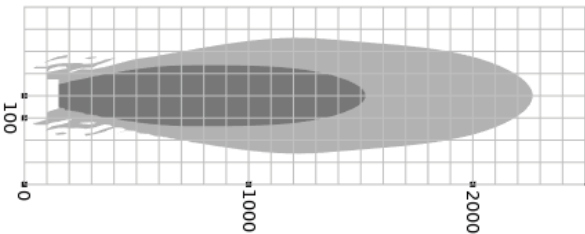
Core colors in accordance with EN 60947-5-2

Dimension



UB2000 series

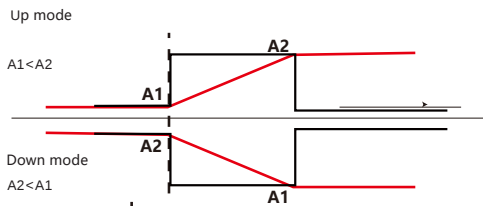
Reference curve



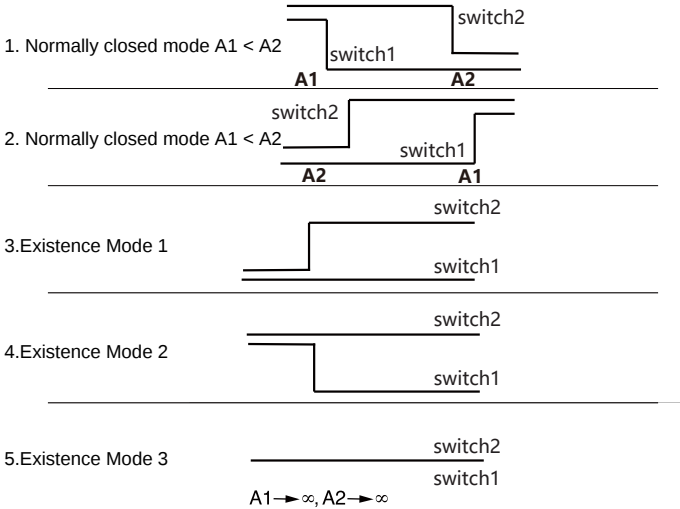
UB2000 series

Output mode

Two output modes for IE4/IE5/U5E4/U5E5/U10E4/U10E5

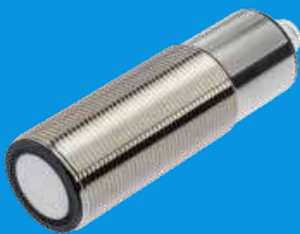


Five output modes for E6/E7 dual switch quantities



30GM85

Dual Output



Advanced Features

- > M30 Cylindrical
- > Synronous function

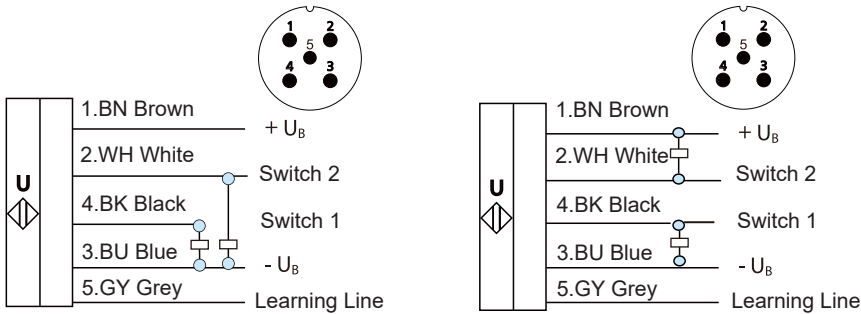
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

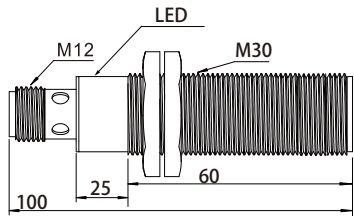
Model		UB3000-30GM85-E6-V15
		UB3000-30GM85-E7-V15
		UB3000-30GM85-IE4-V15
		UB3000-30GM85-IE5-V15
		UB3000-30GM85-U5E4-V15
		UB3000-30GM85-U5E5-V15
		UB3000-30GM85-U10E4-V15
		UB3000-30GM85-U10E5-V15
Transducer frequency	112kHz	
Measure range	180-3000mm	
Adjustment range	190-3000mm	
Angle	±8°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	≤110ms	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch 1 status indicator Flashing: Target detected during learning of A1	
LED blue light	Constant on: Switch 2 status indicator Flashing: Target detected during learning of A2	
LED green light	Constant light: Power connected	
No-load current	≤35mA	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E6/E7	Two PNP channels/two NPN channels
	IE4/IE5	4-20mA, NPN / 4-20mA, PNP
	U5E4/U5E5	0-5V, NPN / 0-5V, PNP
	U10E4/U10E5	0-10V, NPN / 0-10V, PNP

Electric wiring



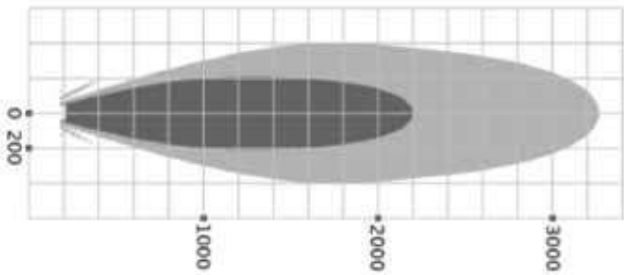
Core colors in accordance with EN 60947-5-2

Dimension



UB3000 series

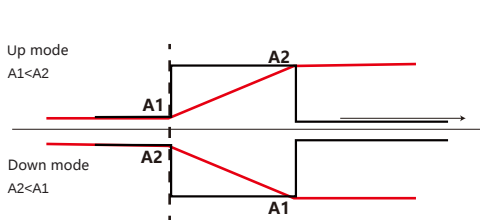
Reference curve



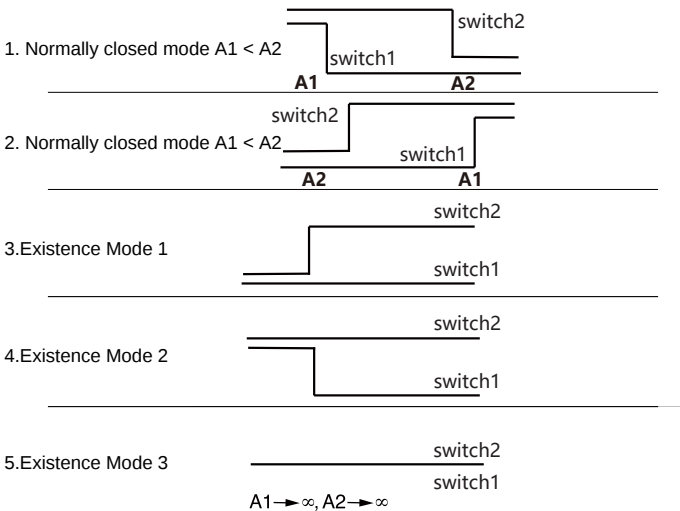
UB3000 series

Output mode

Two output modes for IE4/IE5/U5E4/U5E5/U10E4/U10E5



Five output modes for E6/E7 dual switch quantities



30GM85

Dual Output



Advanced Features

- > M30 Cylindrical
- > Synronous function

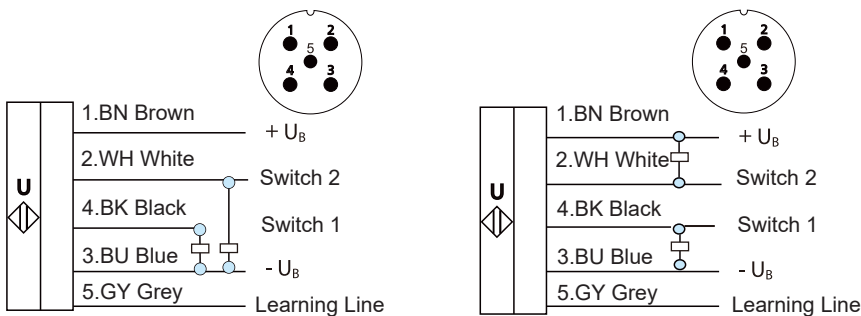
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

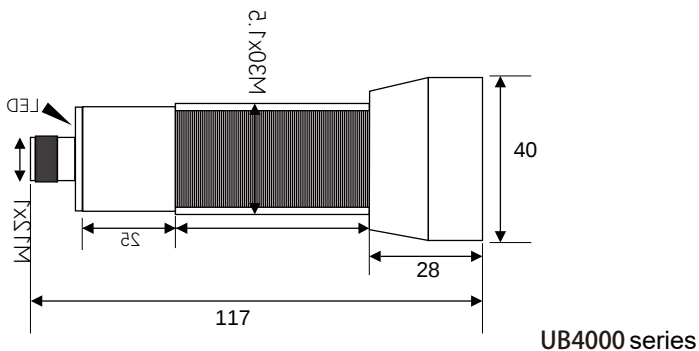
Model		UB4000-30GM85-E6-V15
		UB4000-30GM85-E7-V15
		UB4000-30GM85-IE4-V15
		UB4000-30GM85-IE5-V15
		UB4000-30GM85-U5E4-V15
		UB4000-30GM85-U5E5-V15
		UB4000-30GM85-U10E4-V15
		UB4000-30GM85-U10E5-V15
Transducer frequency	75kHz	
Measure range	200-3000mm	
Adjustment range	220-3000mm	
Angle	±8°	
Repeatability	±1% of full-scale value	
Lag range	1% of the set switch distance	
Response time	≤150ms	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch 1 status indicator Flashing: Target detected during learning of A1	
LED blue light	Constant on: Switch 2 status indicator Flashing: Target detected during learning of A2	
LED green light	Constant light: Power connected	
No-load current	≤35mA	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	-25℃~+70℃(248~343K)	
Storage temperature	-40℃~+85℃(233~358K)	
Temperature drift	±2% of full scale value (with built-in temperature compensation).	
Output	E6/E7	Two PNP channels/two NPN channels
	IE4/IE5	4~20mA, NPN / 4~20mA, PNP
	U5E4/U5E5	0~5V, NPN / 0~5V, PNP
	U10E4/U10E5	0~10V, NPN / 0~10V, PNP

Electric wiring

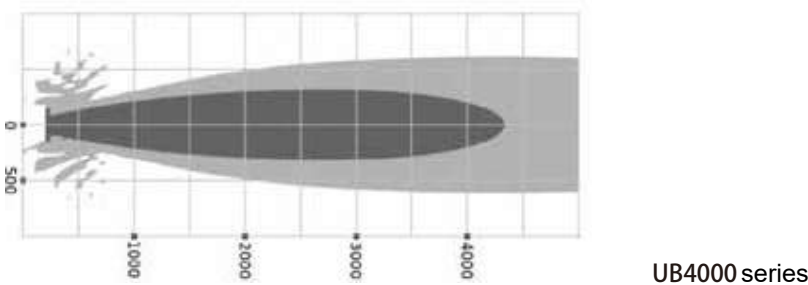


Core colors in accordance with EN 60947-5-2

Dimension

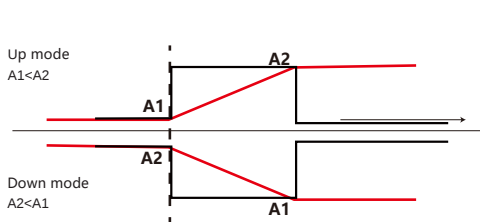


Reference curve

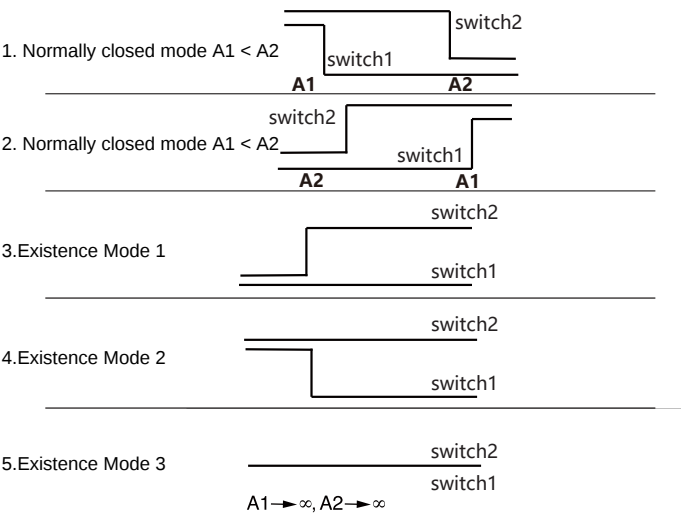


Output mode

Two output modes for IE4/IE5/U5E4/U5E5/U10E4/U10E5



Five output modes for E6/E7 dual switch quantities



30GM85

Dual Output



Advanced Features

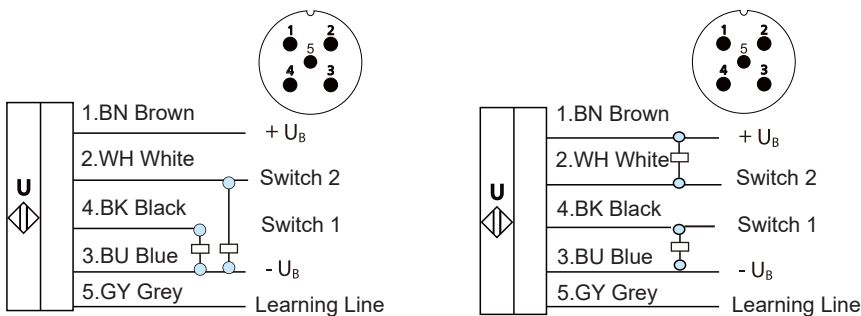
- > M30 Cylindrical
- > Synchronous function

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

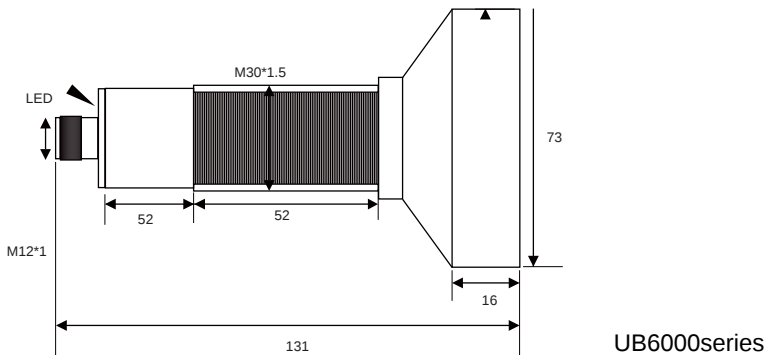
Technical Data Sheet		
Model	UB6000-30GM85-E6-V15	
	UB6000-30GM85-E7-V15	
	UB6000-30GM85-IE4-V15	
	UB6000-30GM85-IE5-V15	
	UB6000-30GM85-U5E4-V15	
	UB6000-30GM85-U5E5-V15	
	UB6000-30GM85-U10E4-V15	
	UB6000-30GM85-U10E5-V15	
Transducer frequency	65kHz	
Measure range	350-6000mm	
Adjustment range	370-6000mm	
Angle	$\pm 10^\circ$	
Repeatability	$\pm 1\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 300\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB	
LED red light	Working status: Error Learning status, flashing: Target not detected	
LED yellow light	Constant on: Switch 1 status indicator Flashing: Target detected during learning of A1	
LED blue light	Constant on: Switch 2 status indicator Flashing: Target detected during learning of A2	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	E6/E7	Two PNP channels/two NPN channels
	IE4/IE5	4-20mA, NPN / 4-20mA, PNP
	U5E4/U5E5	0-5V, NPN / 0-5V, PNP
	U10E4/U10E5	0-10V, NPN / 0-10V, PNP

Electric wiring

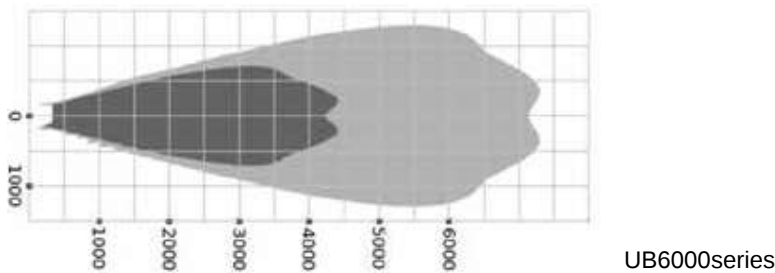


Core colors in accordance with EN 60947-5-2

Dimension



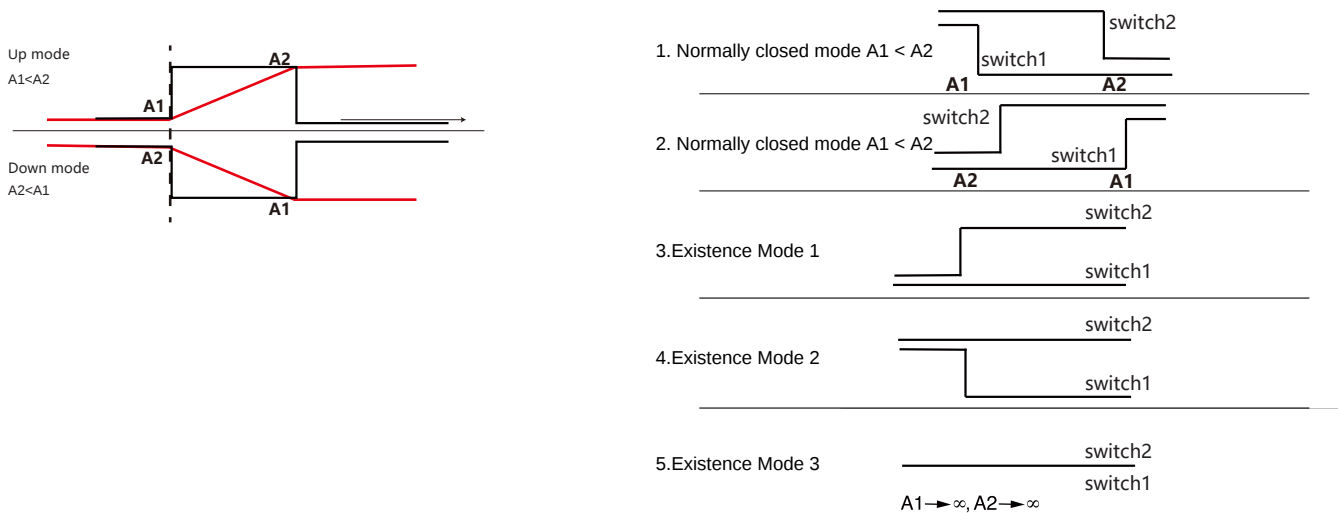
Reference curve



Output mode

Two output modes for IE4/IE5/U5E4/U5E5/U10E4/U10E5

Five output modes for E6/E7 dual switch quantities



30GM85

RS485



Advanced Features

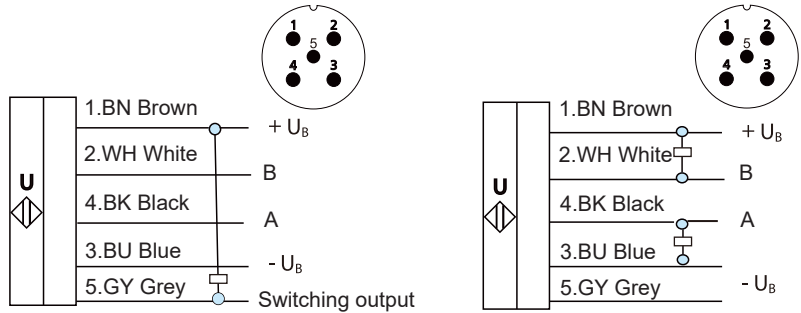
- > M30 Cylindrical
- > Synchronous function

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

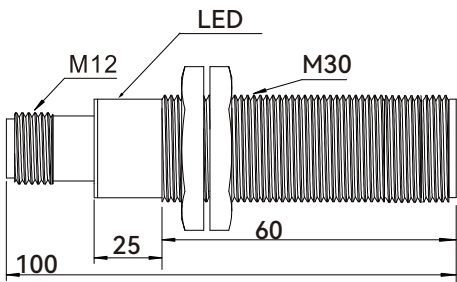
Technical Data Sheet		
Model	UB2000-30GM85-R4E4-V15	
	UB2000-30GM85-R4E5-V15	
	UB2000-30GM85-R4-V15	
Transducer frequency	180kHz	
Measure range	120-2000mm	
Adjustment range	130-2000mm	
Angle	$\pm 5^\circ$	
Repeatability	$\pm 0.3\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 110\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
LED red light	Working status: Error	
LED yellow light	Chang Liang: Target detected	
LED blue light	Received command 485	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Output method	RS485 interface, NPN	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	R4E4	RS485 interface + NPN
	R4E5	RS485 interface + PNP
	R4	RS485 interface (Modbus protocol)

Electric wiring



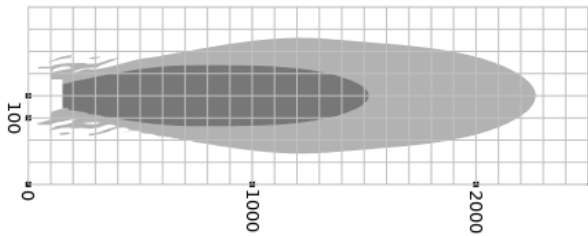
Core colors in accordance with EN 60947-5-2

Dimension



UB2000series

Reference curve

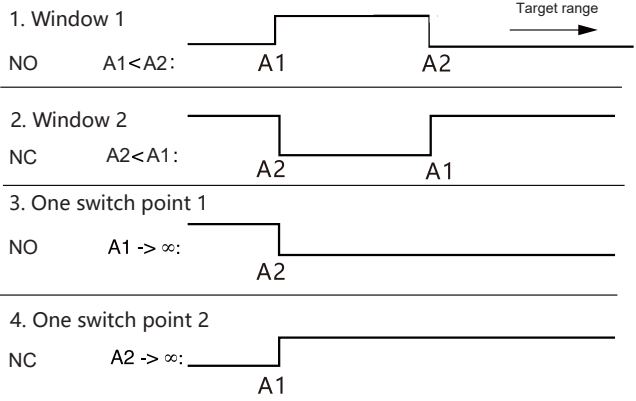


UB2000series

Output mode

E Switch Mode

By writing the values of points A1 and A2 through the RS485 interface, the following five switch modes can be set:



5. A1 -> infinity, A2 -> infinity: Object presence detection mode
Object detected: Switch output closed
No object detected: Switch output open

30GM85

RS485



Advanced Features

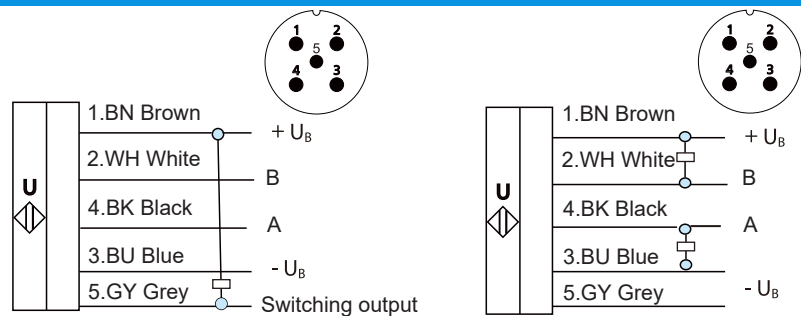
- > M30 Cylindrical
- > Synronous function

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

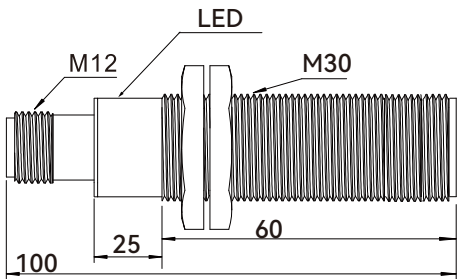
Technical Data Sheet		
Model	UB3000-30GM85-R4E4-V15	
	UB3000-30GM85-R4E5-V15	
	UB3000-30GM85-R4-V15	
Transducer frequency	112kHz	
Measure range	180-3000mm	
Adjustment range	190-3000mm	
Angle	$\pm 8^\circ$	
Repeatability	$\pm 0.3\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 110\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
LED red light	Working status: Error	
LED yellow light	Chang Liang: Target detected	
LED blue light	Received command 485	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Output method	RS485 interface, NPN	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	R4E4	RS485 interface + NPN
	R4E5	RS485 interface + PNP
	R4	RS485 interface (Modbus protocol)

Electric wiring



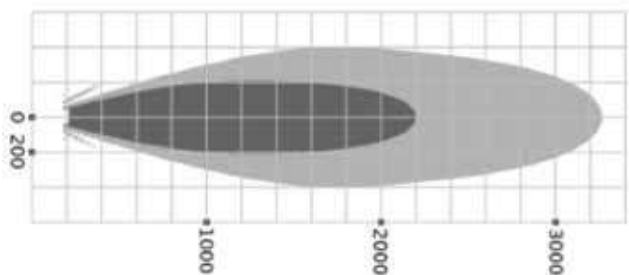
Core colors in accordance with EN 60947-5-2

Dimension



UB3000series

Reference curve

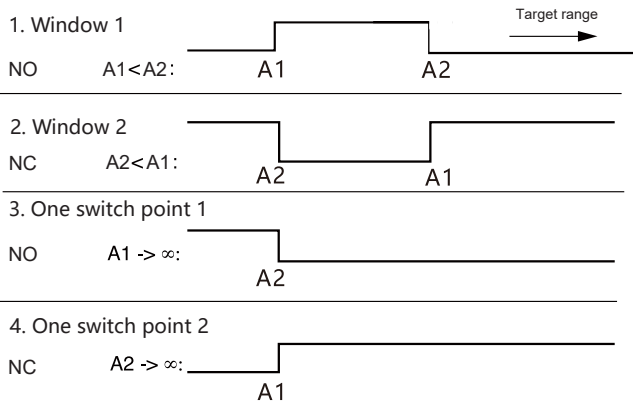


UB3000series

Output mode

E Switch Mode

By writing the values of points A1 and A2 through the RS485 interface, the following five switch modes can be set:



5. A1 -> infinity, A2 -> infinity: Object presence detection mode
Object detected: Switch output closed
No object detected: Switch output open

30GM85

RS485



Advanced Features

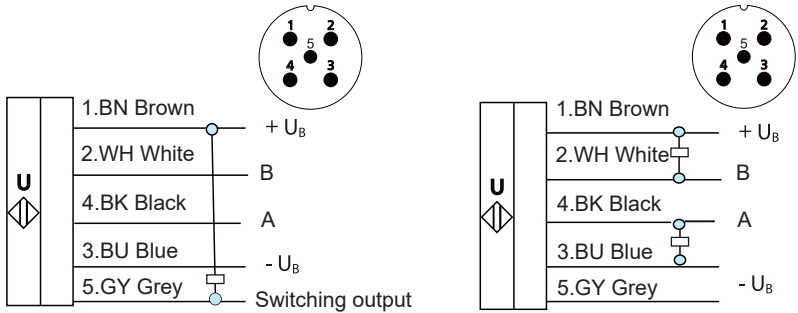
- > M30 Cylindrical
- > Synchronous function

Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

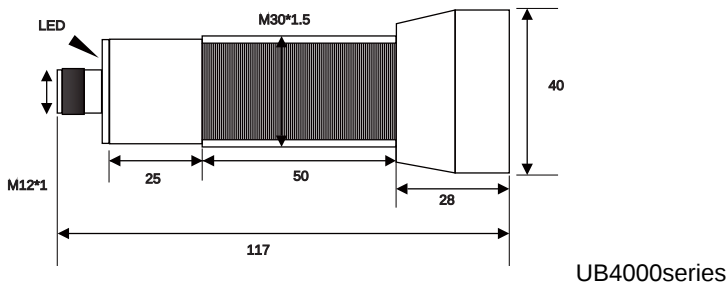
Technical Data Sheet		
Model	UB4000-30GM85-R4E4-V15	
	UB4000-30GM85-R4E5-V15	
	UB4000-30GM85-R4-V15	
Transducer frequency	75kHz	
Measure range	200-3000mm	
Adjustment range	220-3000mm	
Angle	$\pm 8^\circ$	
Repeatability	$\pm 0.3\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 150\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
LED red light	Working status: Error	
LED yellow light	Chang Liang: Target detected	
LED blue light	Received command 485	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Output method	RS485 interface, NPN	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	R4E4	RS485 interface + NPN
	R4E5	RS485 interface + PNP
	R4	RS485 interface (Modbus protocol)

Electric wiring

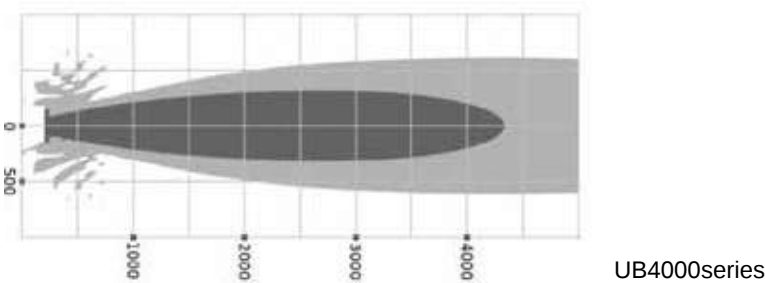


Core colors in accordance with EN 60947-5-2

Dimension



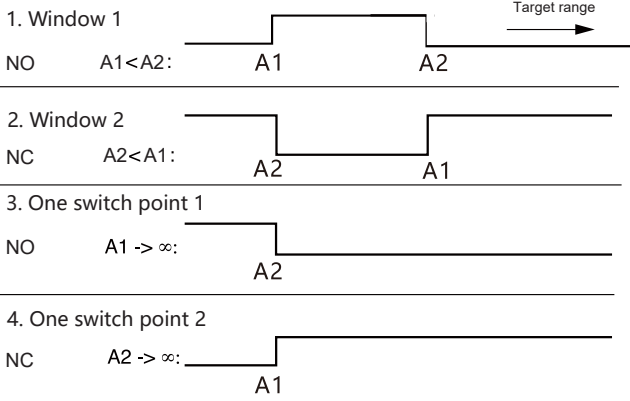
Reference curve



Output mode

E Switch Mode

By writing the values of points A1 and A2 through the RS485 interface, the following five switch modes can be set:



Object detected: Switch output closed
No object detected: Switch output open

30GM85

RS485



Advanced Features

- > M30 Cylindrical
- > Synronous function

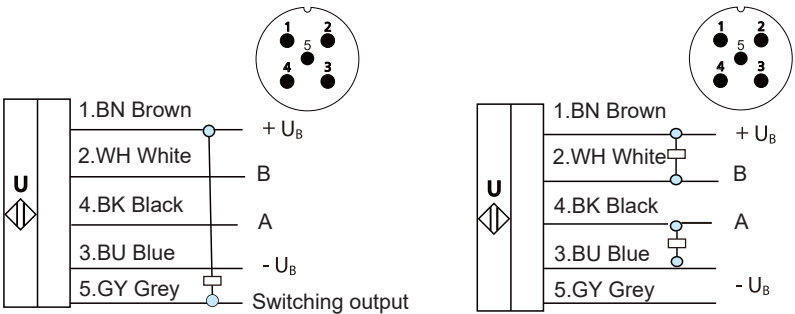
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > Two digital outputs or one digital output + one analogue output
- > Modbus 485 output
- > Serial port upgradeable
- > Temperature compensation

Technical Data Sheet

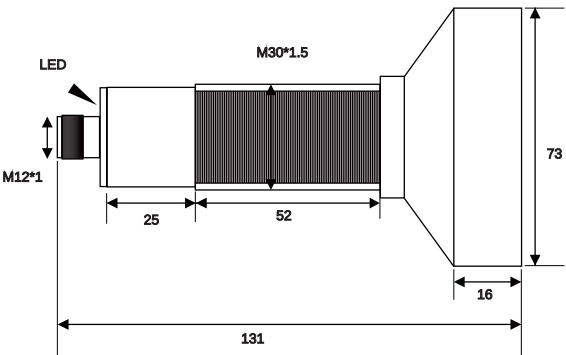
Model	UB6000-30GM85-R4E4-V15	
Transducer frequency	65kHz	
Measure range	350-6000mm	
Adjustment range	370-6000mm	
Angle	$\pm 10^\circ$	
Repeatability	$\pm 0.3\%$ of full-scale value	
Lag range	1% of the set switch distance	
Response time	$\leq 300\text{ms}$	
Operating voltage	9-30VDC 10%Vpp	
LED red light	Working status: Error	
LED yellow light	Chang Liang: Target detected	
LED blue light	Received command 485	
LED green light	Constant light: Power connected	
No-load current	$\leq 35\text{mA}$	
Output method	RS485 interface, NPN	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V15 connector (M121), 5 pins	
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)	
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)	
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation).	
Output	R4E4	RS485 interface + NPN
	R4E5	RS485 interface + PNP
	R4	RS485 interface (Modbus protocol)

Electric wiring



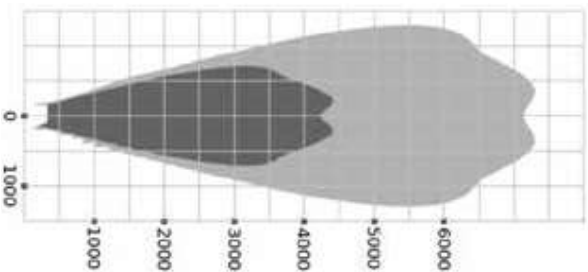
Core colors in accordance with EN 60947-5-2

Dimension



UB6000series

Reference curve

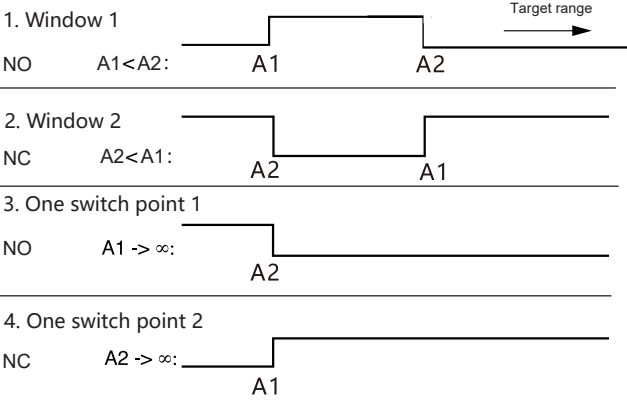


UB6000series

Output mode

E Switch Mode

By writing the values of points A1 and A2 through the RS485 interface, the following five switch modes can be set:



Object detected: Switch output closed
No object detected: Switch output open

F77



Advanced Features

- > Compact size, easy to install
- > Short-range detection

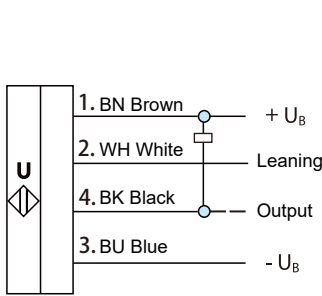
Basic Features

- > 1 NPN or PNP switch output
- > Analog voltage output 0-5/10V or
Analog current output 4-20mA
- > Output can be changed via serial port upgrade
- > Detection distance setting via learning line
- > Temperature compensation

Technical Data Sheet

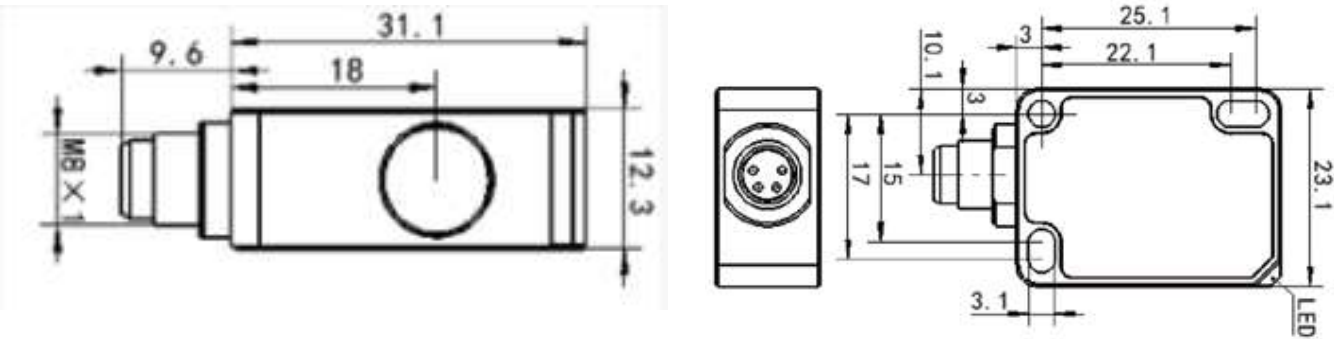
Model		UB250-F77K12-E0-V31
		UB250-F77K12-E1-V31
		UB250-F77K12-E2-V31
		UB250-F77K12-E3-V31
Scope of testing		20-250mm
Blind spot		0-20mm
Resolution		0.17mm
Repeatability		±0.15% of full-scale value
Absolute accuracy		±1% (built-in temperature drift compensation)
Response time		50ms
Switch hysteresis		2mm
Transducer frequency		300kHz
Power-on delay		≤250ms
Operating voltage		20...30V DC, 10%Vpp
LED red light		Constant on: Switch status (open circuit) Flashing: Learning status, no target detected
LED yellow light		Constant on: Switch status (closed) Flashing: Learning status Target detected
No-load current		≤30mA
Input type		With learning function
Material		Plastic, glass-filled epoxy resin
Protective class		IP67
Connection		4-core M12 connector
Ambient temperature		-25°C~+70°C(248~343K)
Storage temperature		-40°C~+85°C(233~358K)
Temperature drift		Serial port upgrade to change output type
Output	E0	NPN normally open
	E1	NPN normally closed
	E2	PNP normally open
	E3	PNP normally closed

Electric wiring

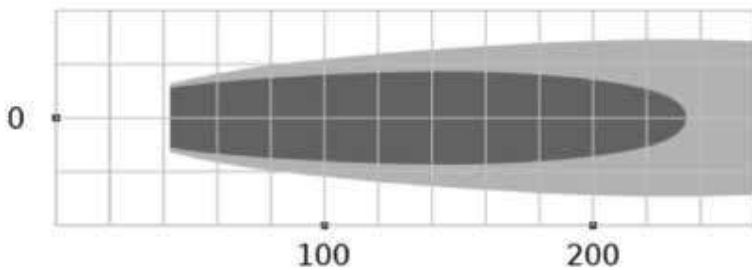


Core colors in accordance with EN 60947-5-2.

Dimension



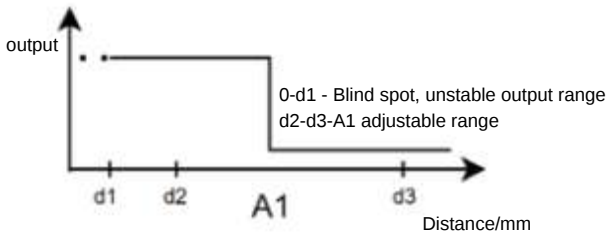
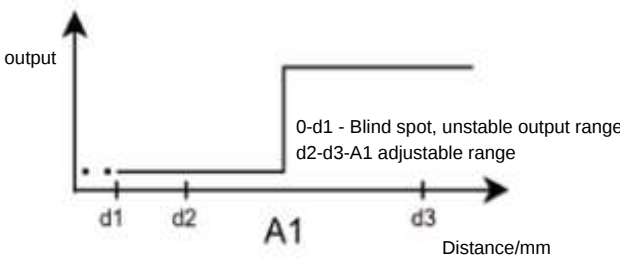
Reference curve



F77series

Output mode

Working mode: By setting the position of point A1, the working mode is as follows:



F40



Advanced Features

- > Rotatable for detecting different directions
- > Compact size, easy to install

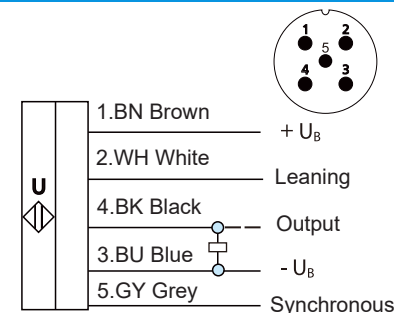
Basic Features

- > One switching output NPN or PNP
- > Analog voltage output 0-5/10V or Analog current output 4-20mA
- > With synchronisation function
- > Sound cone optional
- > Output can be changed via serial port upgrade
- > Detection distance setting via learning line
- > Temperature compensation

Technical Data Sheet

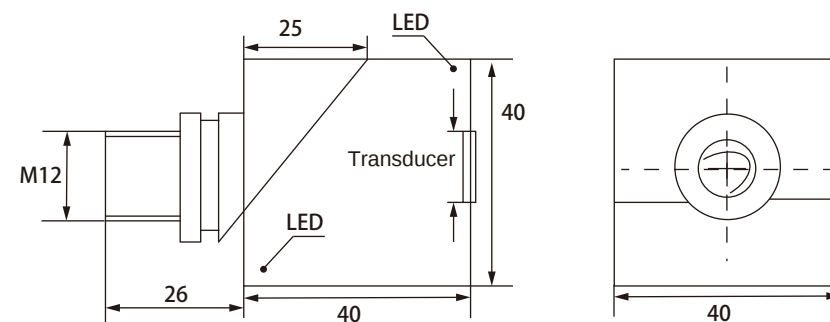
Model	UB500-F40-E4-V15	UB1000-F40-E4-V15	UB4000-F40-E4-V15
	UB500-F40-E5-V15	UB1000-F40-E5-V15	UB4000-F40-E5-V15
	UB500-F40-U5-V15	UB1000-F40-U5-V15	UB4000-F40-U5-V15
	UB500-F40-U10-V15	UB1000-F40-U10-V15	UB4000-F40-U10-V15
	UB500-F40-I-V15	UB1000-F40-I-V15	UB4000-F40-I-V15
	UB500-F40-TTL-V15	UB1000-F40-TTL-V15	UB4000-F40-TTL-V15
	UB500-F40-TTL1-V15	UB1000-F40-TTL1-V15	UB4000-F40-TTL1-V15
Measure range	40-500mm	60-1000mm	200-4000mm
Blind area	0-40mm	0-70mm	0-220mm
Angle	$\pm 7^\circ$	$\pm 7^\circ$	$\pm 8^\circ$
Response time	50ms	50ms	50ms
Transducer frequency	200kHz	200kHz	1120kHz
Response delay	50ms×N	100ms×N	110ms×N
Operating voltage	20-30VDC	9-30VDC	15-30VDC
Repeatability	$\pm 0.15\%$ of full-scale value		
Absolute accuracy	1% of the set switch distance		
LED red light	Working status: Error In learning mode, flashing: Target not detected		
LED yellow light	Constant on: Target detected within A1-A2 range Flashing: Target detected in learning mode		
LED green light	Constant light: Power connected		
No-load current	$\leq 35\text{mA}$		
Input format	A1, learning line connected to -UB; A2, learning line connected to +UB One button function input		
Input/Output	A synchronous input/output		
Material	Nickel-plated copper sleeve, plastic fittings, glass-filled epoxy resin		
Protective class	IP67		
Connection	5 pins M12 connector		
Ambient temperature	$-25^\circ\text{C} \sim +70^\circ\text{C}$ (248~343K)		
Storage temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$ (233~358K)		
Temperature drift	$\pm 2\%$ of full scale value (with built-in temperature compensation)		
Output	E4/E8	one switching output NPN, NO/NC/ Delay mode	
	E5/E9	one switching output NPN, NO/NC/ Delay mode	
	I	one analog current output, 4-20mA	
	U5/U10	one analog voltage output, 0-5V/0-10V	

Electric wiring

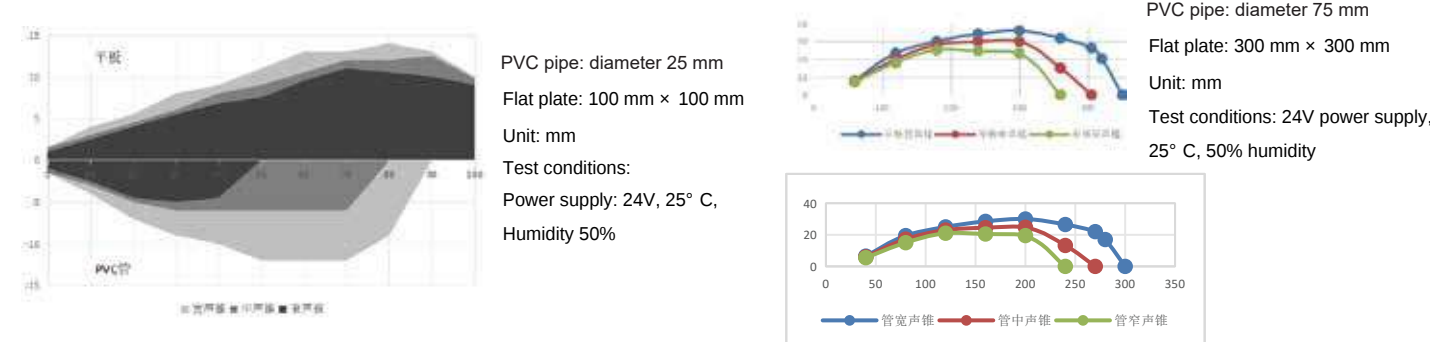


Core colors in accordance with EN 60947-5-2

Dimension

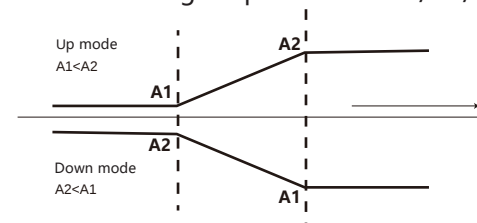


Reference curve

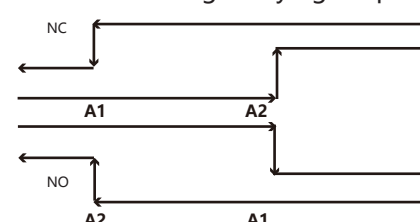


Output mode

Two analog output modes of I/U5/U10



Two Switching delaying output modes of E 8 / E 9



Five switching output modes of

- Window 1
NO A1 < A2: Target range
- Window 2
NC A2 < A1: Target range
- One switch point 1
NO A1 -> ∞: Target range
- One switch point 2
NC A2 -> ∞: Target range
- A1 -> ∞, A2 -> ∞: Object presence detection mode

Object detected: Switch output closed
No object detected: Switch output open

Double-sheet detection



Advanced Features

- > 3-channel control output
- > Can be learned based on any material

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

Technical Data Sheet

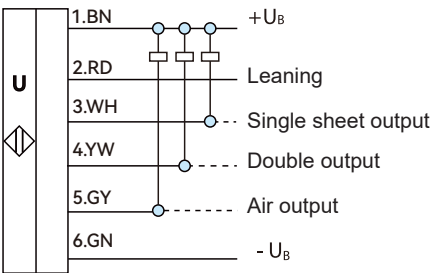
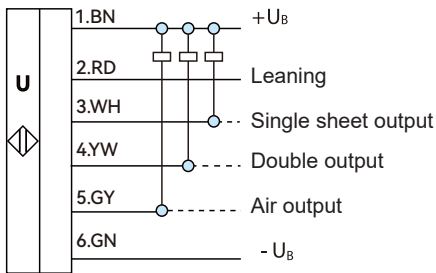
Model	UDB60-18GM46-3E0-V16
	UDB60-18GM46-3E1-V16
	UDB60-18GM46-3E2-V16
	UDB60-18GM46-3E3-V16
Scope of testing	20-60mm
No-load current	<50mA
Transducer frequency	200kHz
Response delay	Single sheet approx. 17 ms, air approx. 17 ms, double sheet approx. 52 ms
Operating voltage	18-30VDC, 10%Vpp

LED indicator light

Mode	Status	Indicator light
Working mode	Single sheet	Green light
Working mode	Double sheet	Red light
Working mode	Air	Yellow light
Learning mode	Learning	Green light flashing
Learning mode	Successful learning	Alternating red and yellow lights (thin material), simultaneous red and yellow lights, flashing red light, flashing yellow light, simultaneous red and green lights (thick material)
Learning mode	Failure to learn	Red light on (approx. 2 seconds)

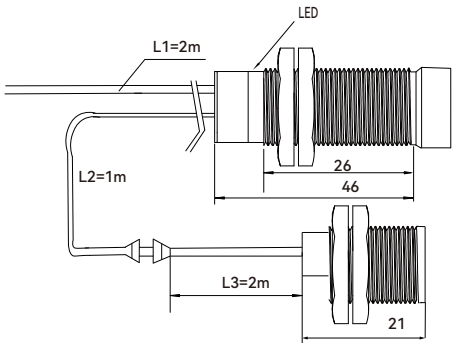
Input format	Learning line connection - UB, perform calibration of the object under test	
Output format	3 NPNs or 3 PNP	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	V16 connector (M121), 6-pin	
Ambient temperature	-25°C~+70°C(248~343K)	
Storage temperature	-40°C~+85°C(233~358K)	
Temperature drift	Serial port upgrade to change output type	
Output	3E0	3 NPNs, normally open load impedance must be ≤150kΩ
	3E1	3 NPNs, normally closed load impedance must be ≤150kΩ
	3E2	3 PNP, normally open
	3E3	3 PNP, normally closed

Electric wiring



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

Dimension



UDB60-18GM46 series

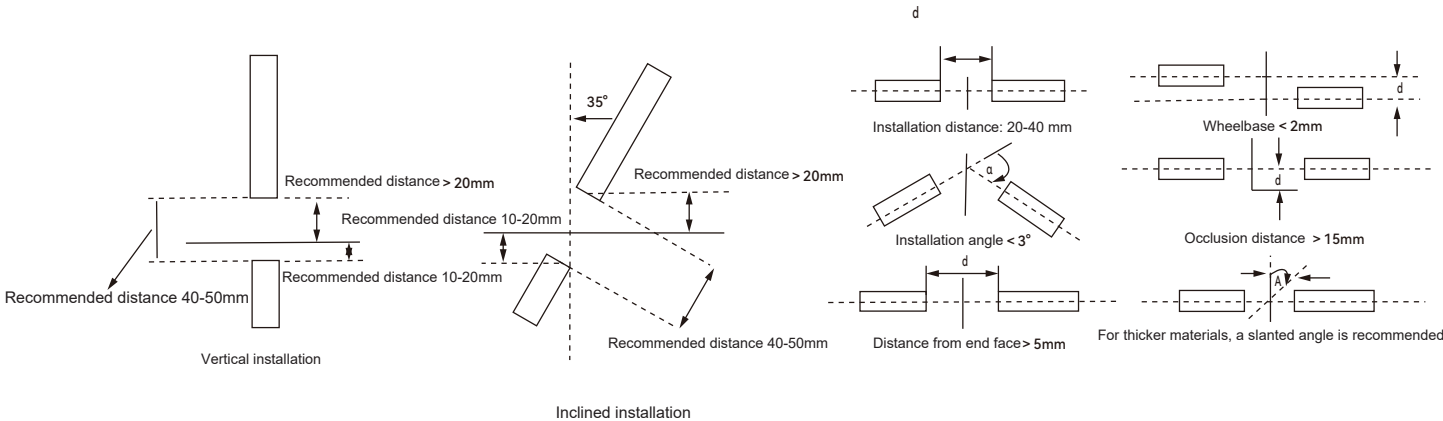
Study methods

UDB60-18GM46 Series

1. Place the test object individually within the detection range and power on.
2. Short-circuit the learning line (red line) to the negative terminal (green line).
3. The green light flashes continuously for>3 seconds, indicating successful learning.
(After successful learning, the product will no longer learn.) Learning failure scenarios:
A flashing red light indicates the test object is too thick or the transmitter is not connected;
A flashing yellow light indicates no test object is placed or the test object is too thin.
After learning failure, the indicator light will briefly turn off and automatically re-learn.
4. Leave the learning line disconnected, then power on again for normal operation.

Installation method

Since ultrasonic sensors are directional, care must be taken when selecting the installation location. It is recommended that the centre lines of the two transducers be aligned to achieve higher sensitivity. When installing vertically, it is recommended that the transmitter face upwards.



Double-sheet detection



Advanced Features

- > 3-channel control output
- > Can be learned based on any material

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

Technical Data Sheet

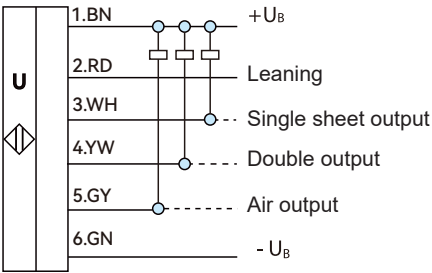
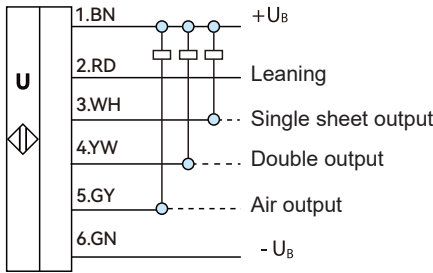
Model	UDB60-18GM75-3E0-VC UDB60-18GM75-3E1-VC UDB60-18GM75-3E2-VC UDB60-18GM75-3E3-VC
Scope of testing	20-60mm
No-load current	<50mA
Transducer frequency	200kHz
Response delay	Single sheet approx. 17 ms, air approx. 17 ms, double sheet approx. 52 ms
Operating voltage	18-30VDC, 10%Vpp

LED indicator light

Mode	Status	Indicator light
Working mode	Single sheet	Green light
Working mode	Double sheet	Red light
Working mode	Air	Yellow light
Learning mode	Learning	Green light flashing
Learning mode	Successful learning	Alternating red and yellow lights (thin material), simultaneous red and yellow lights, flashing red light, flashing yellow light, simultaneous red and green lights (thick material)
Learning mode	Failure to learn	Red light on (approx. 2 seconds)

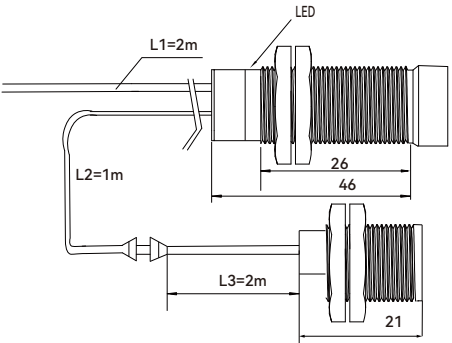
Input format	Learning line connection - UB, perform calibration of the object under test	
Output format	3 NPNs or 3 PNP	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	VC, six-core cable, 2 metres	
Ambient temperature	-25°C~+70°C(248~343K)	
Storage temperature	-40°C~+85°C(233~358K)	
Temperature drift	Serial port upgrade to change output type	
Output	3E0	3 NPNs, normally open load impedance must be ≤150kΩ
	3E1	3 NPNs, normally closed load impedance must be ≤150kΩ
	3E2	3 PNP, normally open
	3E3	3 PNP, normally closed

Electric wiring



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

Dimension



UDB60-18GM75 series

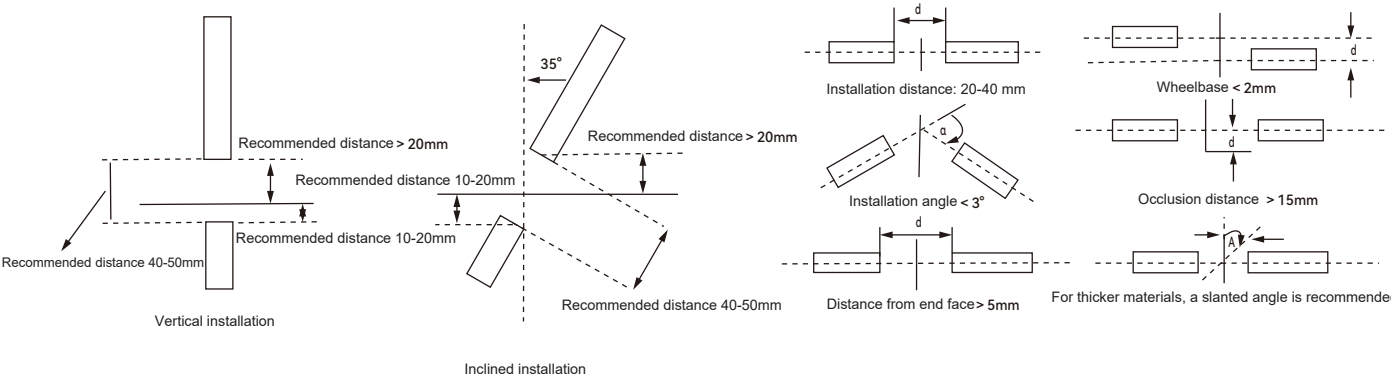
Study methods

UDB60-18GM75 Series

- Place the test object individually within the detection range and power on.
- Short-circuit the learning line (red line) to the negative terminal (green line).
- The green light flashes continuously for>3 seconds, indicating successful learning.
(After successful learning, the product will no longer learn.)Learning failure scenarios:
A flashing red light indicates the test object is too thick or the transmitter is not connected;
A flashing yellow light indicates no test object is placed or the test object is too thin.
After learning failure, the indicator light will briefly turn off and automatically re-learn.
- Leave the learning line disconnected, then power on again for normal operation.

Installation method

Since ultrasonic sensors are directional, care must be taken when selecting the installation location. It is recommended that the centre lines of the two transducers be aligned to achieve higher sensitivity. When installing vertically, it is recommended that the transmitter face upwards.



Double-sheet detection



Advanced Features

- > 3-channel control output
- > Can be learned based on any material

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

Technical Data Sheet

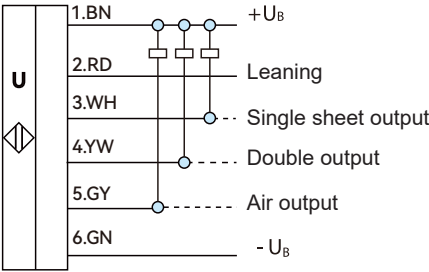
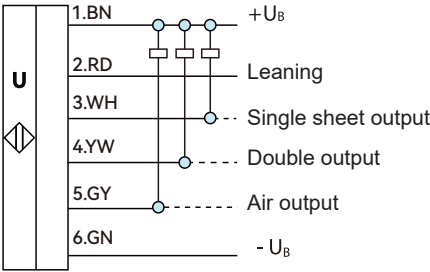
Model	UDB40-12GM75-3E0-VC UDB40-12GM75-3E1-VC UDB40-12GM75-3E2-VC UDB40-12GM75-3E3-VC
Scope of testing	20-40mm
No-load current	<50mA
Transducer frequency	300kHz
Response delay	≤10ms
Operating voltage	18-30VDC, 10%Vpp

LED indicator light

Mode	Status	Indicator light
Working mode	Single sheet	Green light
Working mode	Double sheet	Red light
Working mode	Air	Yellow light on (+ red light on: not aligned)
Learning mode	Successful learning	Red light flashing (material too thick) Yellow light flashing (material too thin)
Learning mode	Failure to learn	Green light flashing

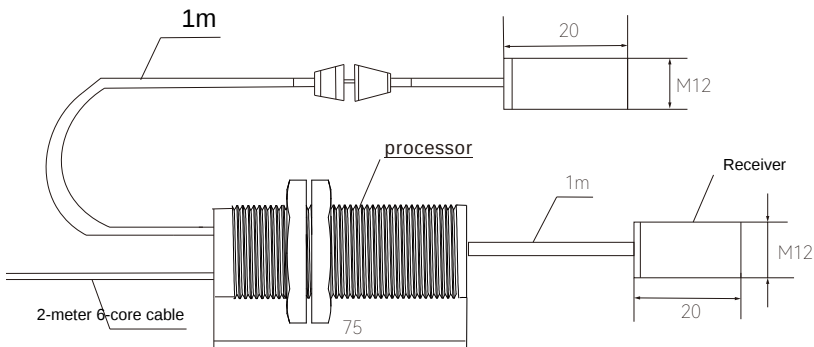
Input format	Learning line connection - UB, perform calibration of the object under test	
Output format	3 NPNs or 3 PNP	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	VC, six-core cable, 2 metres	
Ambient temperature	-25°C~+70°C(248~343K)	
Storage temperature	-40°C~+85°C(233~358K)	
Temperature drift	Serial port upgrade to change output type	
Output	3E0	3 NPNs, normally open load impedance must be ≤150kΩ
	3E1	3 NPNs, normally closed load impedance must be ≤150kΩ
	3E2	3 PNP, normally open
	3E3	3 PNP, normally closed

Electric wiring



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

Dimension



UDB40-12GM75 series

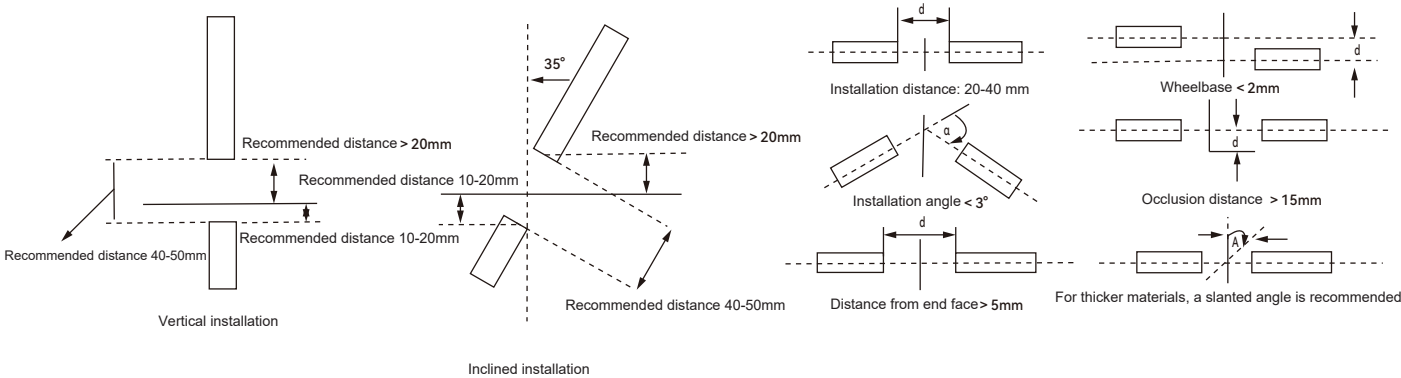
Study methods

UDB60-18GM46 Series

1. Place the test object individually within the detection range and power on.
2. Short-circuit the learning line (red line) to the negative terminal (green line).
3. The green light flashes continuously for>3 seconds, indicating successful learning.
(After successful learning, the product will no longer learn.)Learning failure scenarios:
A flashing red light indicates the test object is too thick or the transmitter is not connected;
A flashing yellow light indicates no test object is placed or the test object is too thin.
After learning failure, the indicator light will briefly turn off and automatically re-learn.
4. Leave the learning line disconnected, then power on again for normal operation.

Installation method

Since ultrasonic sensors are directional, care must be taken when selecting the installation location. It is recommended that the centre lines of the two transducers be aligned to achieve higher sensitivity. When installing vertically, it is recommended that the transmitter face upwards.



Double-sheet detection



Advanced Features

- > 3-channel control output
- > Can be learned based on any material

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

Technical Data Sheet

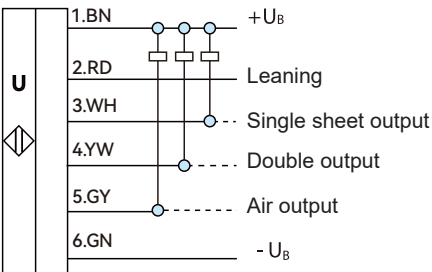
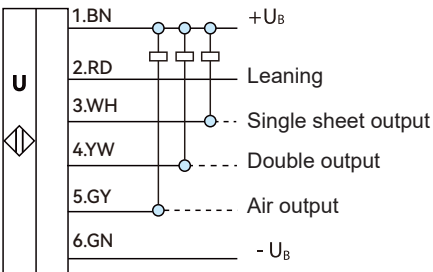
Model	UDB60-18GM46-3E0-V16
	UDB60-18GM46-3E1-V16
	UDB60-18GM46-3E2-V16
	UDB60-18GM46-3E3-V16
Scope of testing	20-60mm
No-load current	<50mA
Transducer frequency	200kHz
Response delay	Single sheet approx. 17 ms, air approx. 17 ms, double sheet approx. 52 ms
Operating voltage	18-30VDC, 10%Vpp

LED indicator light

Mode	Status	Indicator light
Working mode	Single sheet	Green light
Working mode	Double sheet	Red light
Working mode	Air	Yellow light
Learning mode	Learning	Green light flashing
Learning mode	Successful learning	Alternating red and yellow lights (thin material), simultaneous red and yellow lights, flashing red light, flashing yellow light, simultaneous red and green lights (thick material)
		Red light on (approx. 2 seconds)
Learning mode	Failure to learn	Red light on (approx. 2 seconds)

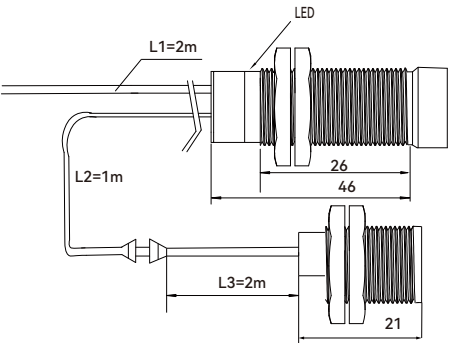
Input format	Learning line connection - UB, perform calibration of the object under test	
Output format	3 NPNs or 3 PNP	
Material	Nickel-plated brass	
Protective class	IP67	
Connection	VC, six-core cable, 2 metres	
Ambient temperature	-25°C~+70°C(248~343K)	
Storage temperature	-40°C~+85°C(233~358K)	
Temperature drift	Serial port upgrade to change output type	
Output	3E0	3 NPNs, normally open load impedance must be ≤150kΩ
	3E1	3 NPNs, normally closed load impedance must be ≤150kΩ
	3E2	3 PNP, normally open
	3E3	3 PNP, normally closed

Electric wiring



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

Dimension



UDB60-18GM46 series

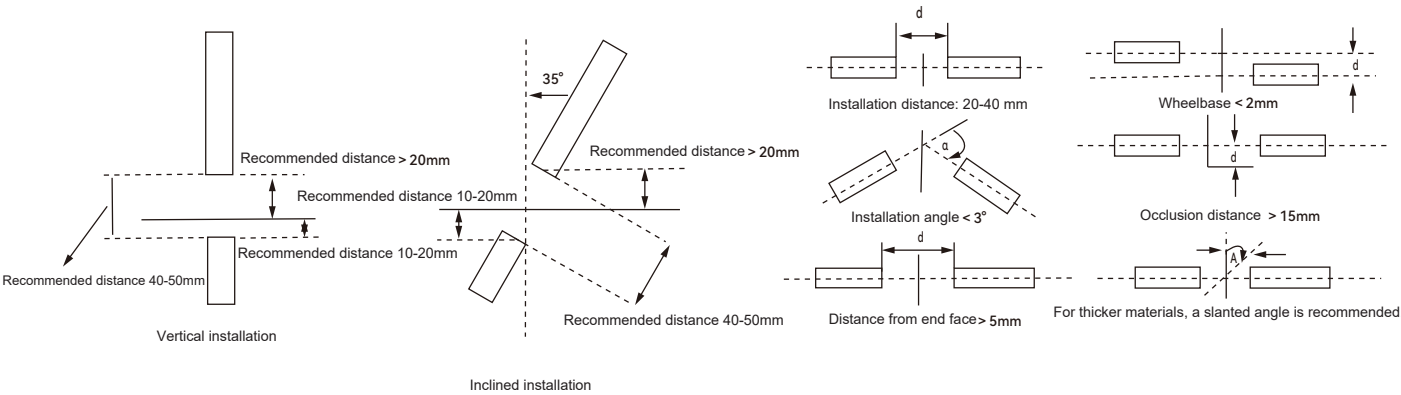
Study methods

UDB60-18GM46 Series

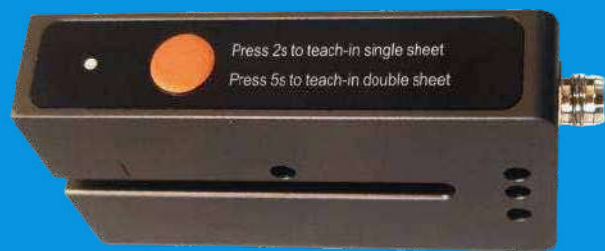
- Place the test object individually within the detection range and power on.
- Short-circuit the learning line (red line) to the negative terminal (green line).
- The green light flashes continuously for>3 seconds, indicating successful learning.
(After successful learning, the product will no longer learn.) Learning failure scenarios:
A flashing red light indicates the test object is too thick or the transmitter is not connected;
A flashing yellow light indicates no test object is placed or the test object is too thin.
After learning failure, the indicator light will briefly turn off and automatically re-learn.
- Leave the learning line disconnected, then power on again for normal operation.

Installation method

Since ultrasonic sensors are directional, care must be taken when selecting the installation location. It is recommended that the centre lines of the two transducers be aligned to achieve higher sensitivity. When installing vertically, it is recommended that the transmitter face upwards.



Tag sensor



Advanced Features

- > NPN switch output
- > Label and carrier material identification
- > Single/double sheet detection

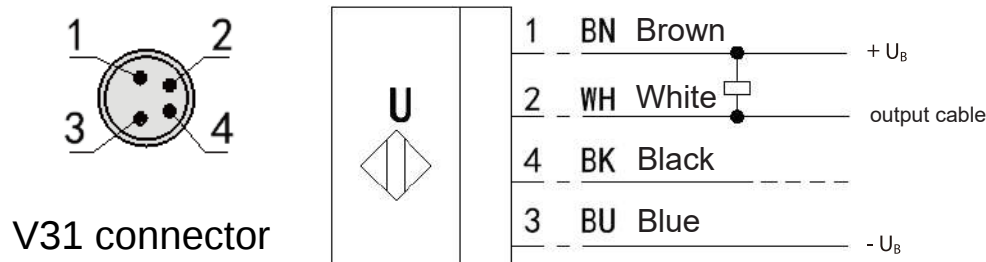
Basic Features

- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

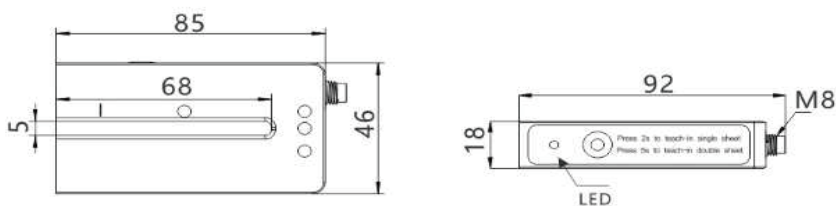
Technical Data Sheet

Model		UDB5-F85-E4-V31
Scope of testing		150-2500mm
Smallest detectable object		Spacing between labels/label size- 2 mm
Switching frequency		1.2kHz
Output current		100mA
Operating voltage		10-30 VDC, reverse polarity protection
LED indicator light		
Mode	Status	Indicator light
Working mode	Single sheet	Green light
Working mode	Double sheet	Red light
Working mode	Air	Yellow light
Learning mode	Single-sheet learning	Press and hold the button for more than 2 seconds. The green light will flash. Release the button to enter learning mode (if successful, the green light will flash 3 times; if unsuccessful, the red light will flash 3 times).
Learning mode	Double-sided learning	Press and hold the button for more than 5 seconds to switch from a flashing green light to a flashing yellow mode light. Release the button to enter learning (successful: 3 flashes of green light; unsuccessful: 3 flashes of red light).
Response delay		250μs
Output format		NPN
Material		Metal, aluminium
Protective class		IP67
Connection		V31 connector (M81), 4 pins
Ambient temperature		-25℃~+70℃
Storage temperature		-40℃~+85℃
Temperature drift		Serial port upgrade to change output type
Output	E4	NPN

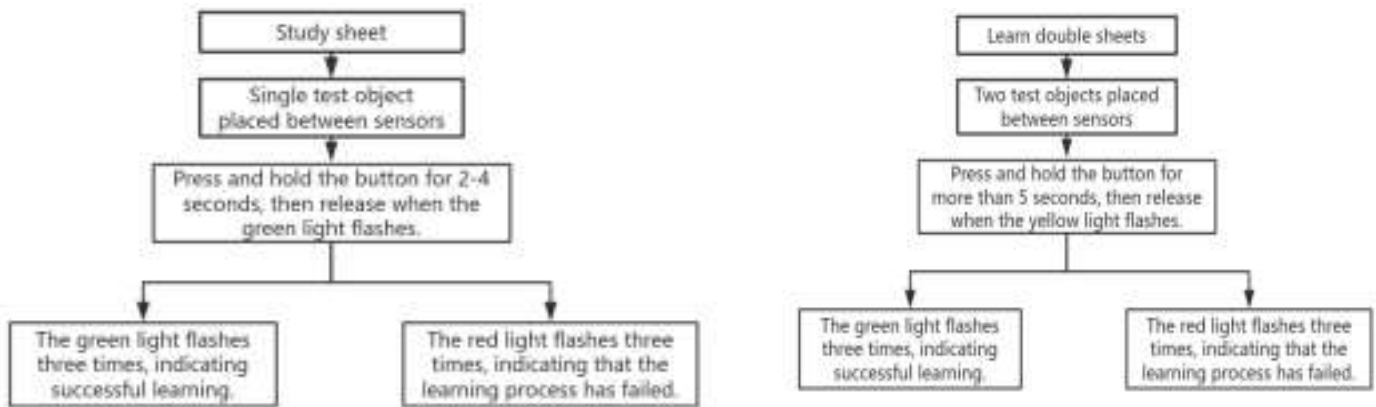
Electric wiring



Dimension



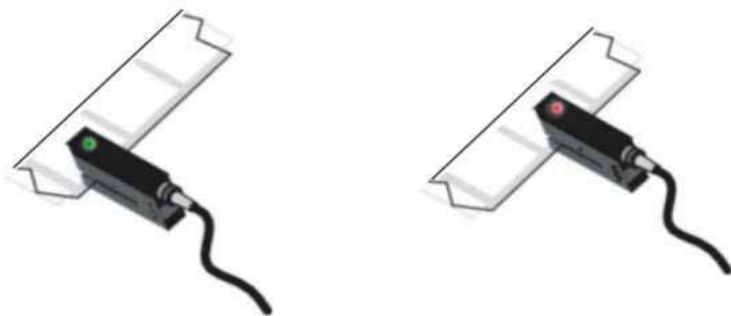
Study methods



Installation method

Place the label or substrate within the effective area of the slot sensor.

Through multiple tags via a slot-shaped sensor



Material testing



Advanced Features

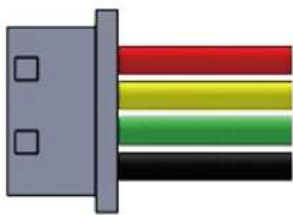
- > Rotatable for detecting different directions
- > Compact size, easy to install

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

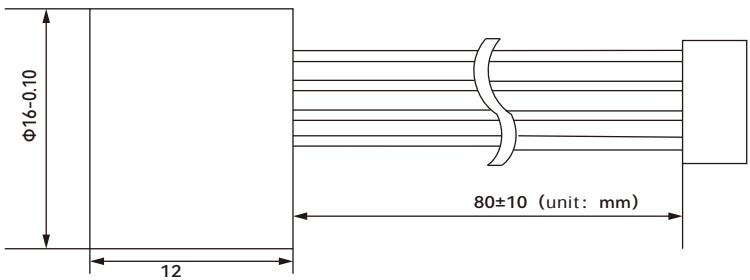
Technical Data Sheet		
Model	UB30-16GK12-TTLE5-VC	
	UB300-16GK12-TTL-VC	
	UB45-16GK12-IIC-VC	
	UB100-16GK12-TTL-VC	
	UB200-16GK12-E2-VC	
	UB300-16GK12-TTL-VC	
	UB300-16GK12-TTL8-VC	
Scope of testing	50-100mm	
Material testing	Wooden flooring or tiles, carpets	
Transducer frequency	300kHz	
Response delay	≤ 20ms	
Operating voltage	5VDC, 10%Vpp	
Detection principle	Different materials have different ultrasonic reflection intensities and echo heights. For example, flat and smooth materials such as wooden floors and tiles reflect sound waves more strongly. The echo height is relatively high however, materials such as carpets have weak sound wave reflection and a relatively low echo height. By utilising the difference in echo height, different materials can be identified.	
No-load current	≤ 11mA	
Operating temperature	0°C-40°C	
Storage temperature	0°C-80°C	
Protective class	IP67	
Connection type	VC, 1.25 mm terminal, A1251H-4P/CT	
Shell material	Plastic, epoxy resin + glass beads	
Weight	4g	
Output	TTL/TTLE5/TTL8	TTL232 interface
	IIC	IIC communication protocol
	E2	PNP normally open* (*output high or low level) No target detected: low level 0-0.5V; Target detected: high level 2.8-3.8V

Electric wiring

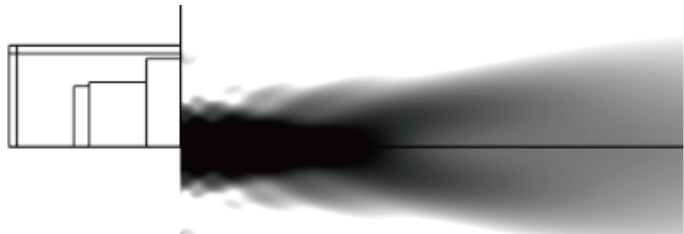


Red wire: Power positive
Yellow line: R (sensor input)
Green line: T (sensor output)
Black wire: Power negative

Dimension



Response characteristic curve



Material testing



Advanced Features

- > Rotatable for detecting different directions
- > Compact size, easy to install

Basic Features

- > 3-channel NPN/PNP output
- > Detection of single and double sheets of various materials
- > The output mode can be changed via serial port upgrade
- > Achieve learning functions for different materials through Learning lines
- > Temperature compensation

Technical Data Sheet

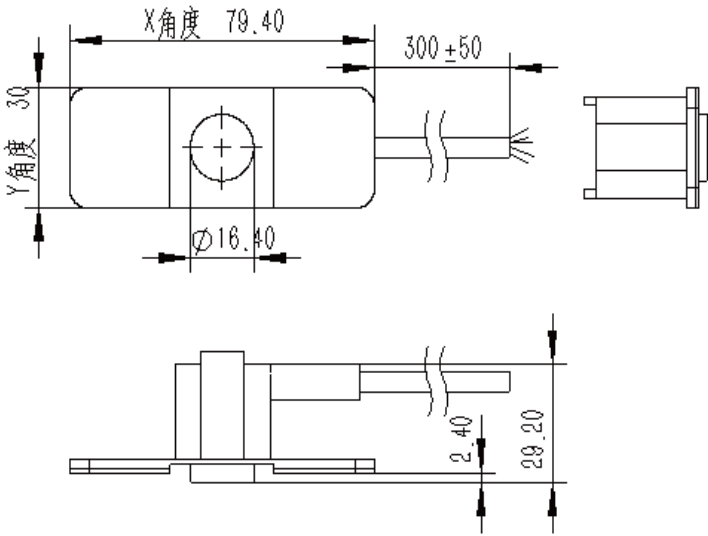
Model	UB1000-17GKW29-TTL3-VC-58
	UB1000-17GKW29-TTL-VC-58
	UB1000-17GKW29-TTL-VC-58
	UB2000-17GKW29-TTL-VC-58
	UB2000-17GKW29-TTL-VC-58-T12
	UB1000-17GKW29-TTL1-VC-58
	UB1000-17GKW29-TTL2-VC-58
Scope of testing	150-1000mm
Blind spot	0-150mm
Transducer frequency	58kHz
Response delay	100ms
Operating voltage	5-12VDC, 10%Vpp
Protective circuit	reverse polarity protection, transient overvoltage protection
No-load current	≤25mA
Ambient temperature	-20℃~+70℃(253~343K)
Storage temperature	-40℃~+85℃(233~358K)
Protective class	IP65
Connection	VC, 1.25 mm terminal, 5-pin, M 51146
Material	Plastic, transducer aluminium
Weight/Line Length	28g/0.3m
Output	Digital TTL232 interface

Electric wiring



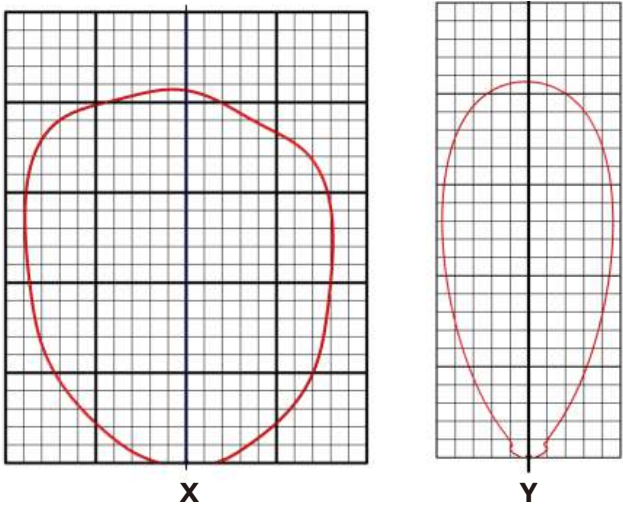
- Blue line: TX
- Green line: RX
- Yellow line: synchronisation line
- Black line: Power negative
- Brown wire: Power positive

Dimension



Recommended hole size: Hole diameter 16.4 mm
Shell thickness: 2.4 mm
Unit: mm

Response characteristic curve



Dark colour: 25 mm diameter PVC pipe
Unit: mm
Light colour: 100 mm × 100 mm flat plate
Note: There may be discrepancies. For reference only.

Note: The detection area of this proximity switch is not rotationally symmetrical. Please pay attention to the angle when installing.