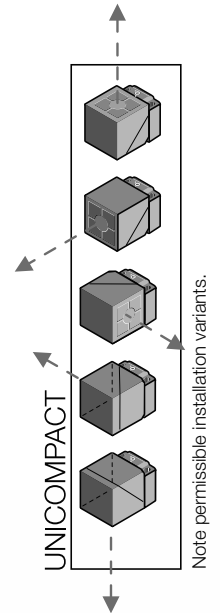


# DC 3-/4-wire Inductive Sensors

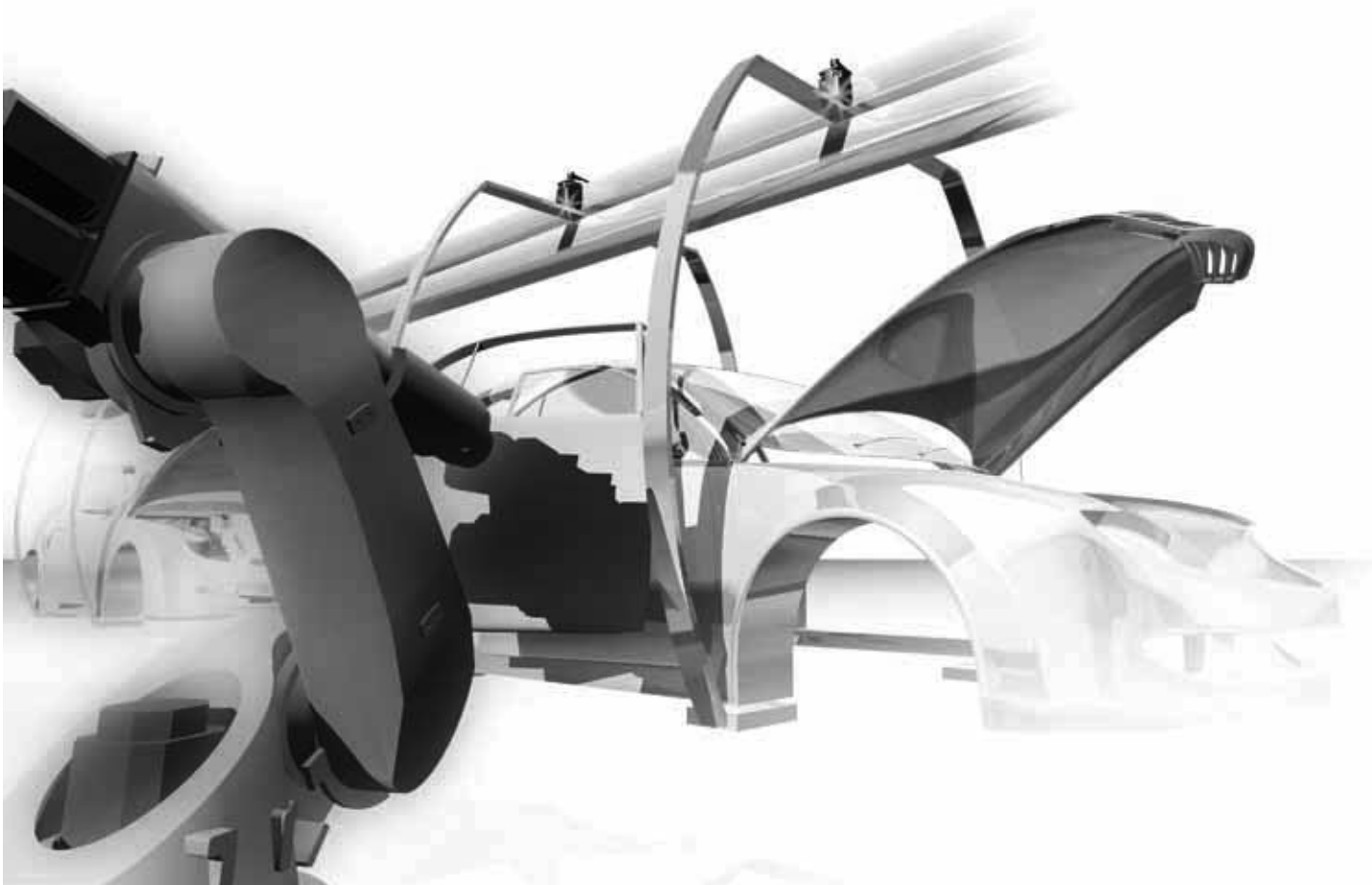
## Block design, 40×40 mm Unicompat

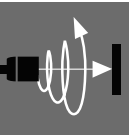
### Unicompat

The Unicompat is a flexible sensor for versatile application in mechanical and systems engineering and wherever space is at a premium. The sensing surface is convertible. The connection can be rotated in all directions. With it, angle plugs are also positioned optimally at all time.



Compact sensor designs with large switching distances are required in material handling technology. In addition, the switching and operating state of the sensor must be able to be identified from far away.





Inductive Sensors

Global DC 3-wire

DC 3-/4-wire

Cylinder Designs

Block Designs

DC 2-wire

AC/DC 2-wire

AC 2-wire

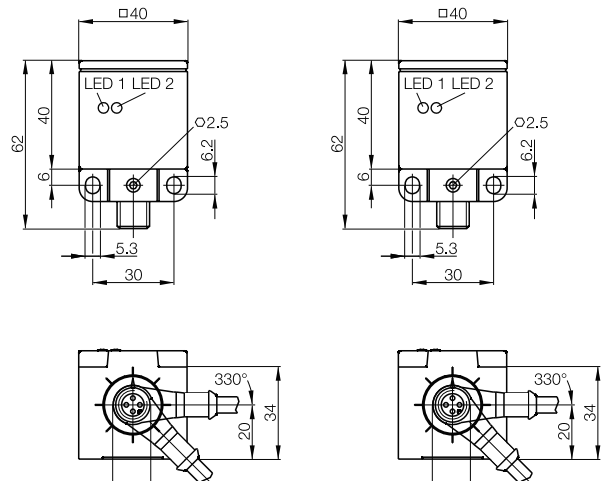
Special Properties

Analog Distance Measurement

Accessories

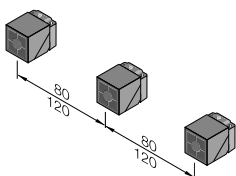
Model	40×40 mm Unicompat	40×40 mm Unicompat
Installation type (observe instructions in the Basic Information chapter)	Flush	Flush
Rated switching distance $s_n$	<b>20 mm</b>	<b>20 mm</b>
Assured switching distance $s_a$	0...16 mm	0...16 mm
Switching distance marking	■	■
PNP, NO	<b>Ordering code</b> Part number	<b>BES021W</b> BES Q40KFU-PSC20B-S04G
PNP, complementary	<b>Ordering code</b> Part number	<b>BES0217</b> BES Q40KFU-PAC20B-S04G
Supply voltage $U_s$	10...30 V DC	<b>BES0218</b> BES Q40KFU-PAC20B-S04G-004 10...55 V DC
Voltage drop $U_d$ at $I_e$ max.	2.5 V	2.5 V
Rated insulation voltage $U_i$ (protection class)	250 V AC (□)	250 V AC (□)
Rated operating current $I_e$	200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature $T_a$	-25...+70 °C	-25...+70 °C
Switching frequency $f$ max.	50 Hz	50 Hz
Output function indicator	Yellow LED	Yellow LED
Degree of protection as per IEC 60529	IP 67	IP 67
Approvals	CE, cULus	CE
Material	Housing: PBT Sensing surface: PBT	PBT PBT
Possible installation variations	Image 1...8	Image 1...8
Connection	M12 connector, 4-pin	M12 connector, 4-pin

Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.

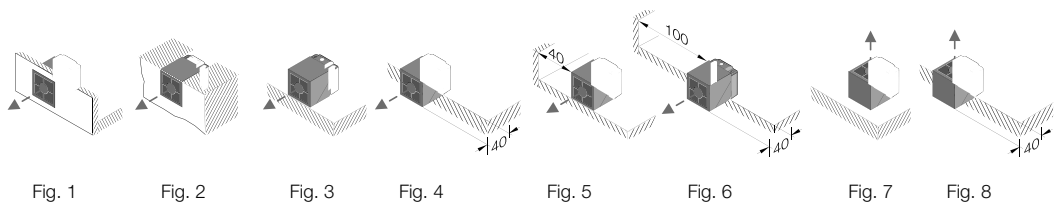


### Row mounting

Flush 80 mm  
Ø 120 mm non-flush



### Permissible installation options



# DC 3-/4-wire Inductive Sensors

## Block design, 40×40 mm Unicompat

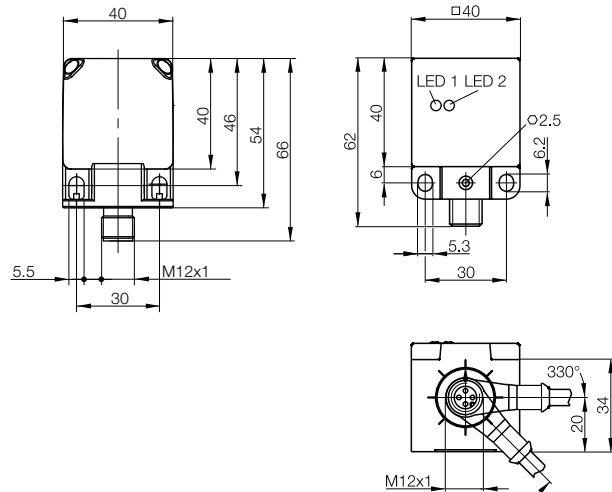


		40×40 mm	40×40 mm
Model		40×40 mm	40×40 mm
Installation type (observe instructions in the Basic Information chapter)		Flush	Not flush
Rated switching distance $s_n$		20 mm	25 mm
Assured switching distance $s_a$		0...16.2 mm	0...20 mm
Switching distance marking		■	■
PNP, NO	<b>Ordering code</b>	<b>BES0306</b>	
	Part number	BES Q40KFU-PSC20B-S04G-012	
PNP, complementary	<b>Ordering code</b>		
	Part number		
NPN, complementary	<b>Ordering code</b>		<b>BES022J</b>
	Part number		BES Q40KFU-NAC25F-S04G
Supply voltage $U_s$		10...30 V DC	10...30 V DC
Voltage drop $U_d$ at $I_e$ max.		2.5 V	2.5 V
Rated insulation voltage $U_i$ (protection class)		250 V AC (□)	250 V AC (□)
Rated operating current $I_e$		200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature $T_a$		-25...+70 °C	-25...+70 °C
Switching frequency $f$ max.		100 Hz	50 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Approvals		CE, cULus	CE, cULus
Material	Housing	PA	PBT
	Sensing surface	PA	PBT
Possible installation variations		Image 1...8	Image 3...8
Connection		M12 connector, 4-pin	M12 connector, 4-pin

Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.

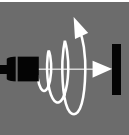
### Housing optimized for material handling technology

- Highly visible corner LEDs
- Sensor head can be mounted in five positions
- Connector outlet set to position within a 270° range

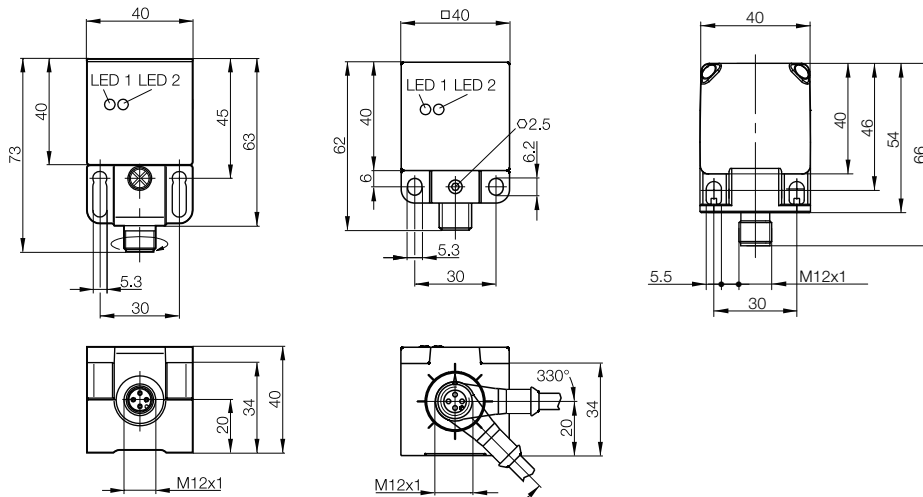




<b>40×40 mm</b> Not flush <b>25 mm</b> 0...20 mm ■	<b>40×40 mm</b> Not flush <b>30 mm</b> 0...24 mm ■ <b>BES021Z</b> BES Q40KFU-PSC30F-S04G	<b>40×40 mm</b> Not flush <b>40 mm</b> 0...32.4 mm ■■ <b>BES0308</b> BES Q40KFU-PSC40F-S04G-012	
<b>BES0210</b> BES Q40KEU-PAH25F-S04G	<b>BES021E</b> BES Q40KFU-PAC30F-S04G		
10...55 V DC 2.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -25...+70 °C 50 Hz Yellow LED IP 67 CE PBT/Cast zinc PBT Image 3...8 M12 connector, 4-pin	10...30 V DC 2.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -25...+70 °C 50 Hz Yellow LED IP 67 CE, cULus PBT Image 3...8 M12 connector, 4-pin	10...30 V DC 2.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -25...+70 °C 60 Hz Yellow LED IP 67 CE, cULus PA Image 3...8 M12 connector, 4-pin	



Inductive Sensors  
Global DC 3-wire  
DC 3-/4-wire  
Cylinder Designs  
Block Designs  
DC 2-wire  
AC/DC 2-wire  
AC 2-wire  
Special Properties  
Analog Distance Measurement  
Accessories



# DC 3-/4-wire Inductive Sensors

## Block design, 40x40 mm Unisensor

### The Unisensor – multiple uses

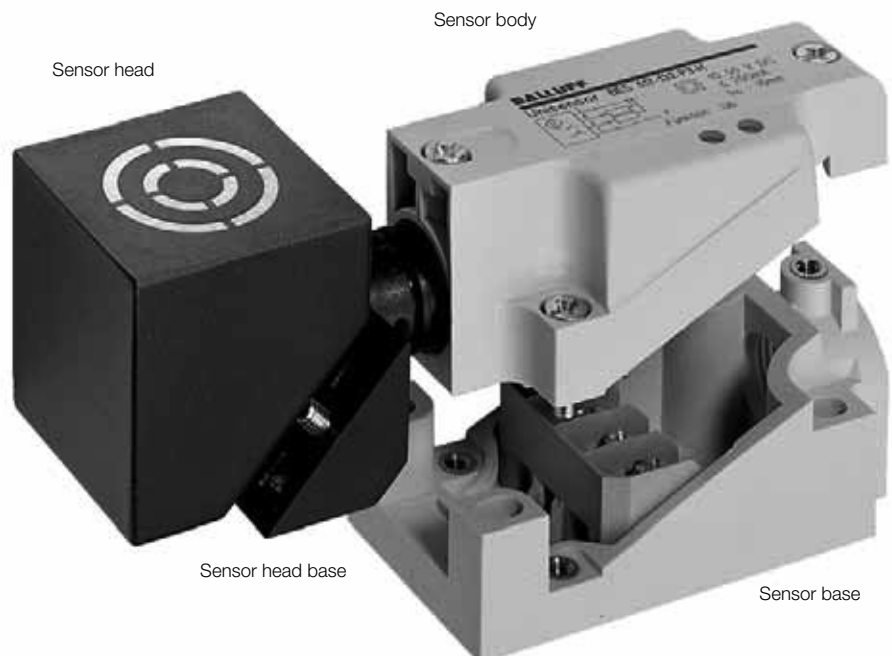
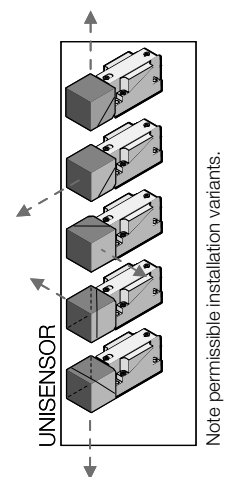
- The Unisensor is made up of three modular components: sensor head- including sensor head base), sensor body and sensor base.
- Easily removable pin contacts join sensor head- and sensor body, e.g. easy interchange of the modules without wiring.
- Sensor base with wiring terminals, self-lifting pressure plates and ample wiring room.
- Sensor head rotatable in five different positions for easy adaptation to any application (see installation drawings).
- PBT plastic housing.
- Mounting dimensions and values are based on DIN EN 60947-5-2
- LED for supply voltage and output function indicator
- Also available in special configuration for the automotive industry
- In the complementary version, output terminals 2 or 4 can be wired to configure the switch as normally closed (terminal 2) or normally open (terminal 4). By assigning both terminals, the complementary function can be used.

### Positioning the sensor head

- Loosen the two holding screws on the sensor head.
- Rotate the sensor head 180°.
- Tighten the holding screws.

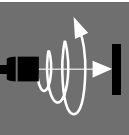
### Rotate the sensor head.

- Loosen the holding screws.
- Rotate the sensor head (complete with sensor head base) into the desired position.
- Tighten the holding screws.
- Sensor head is protected against over-rotation.



# DC 3-/4-wire Inductive Sensors

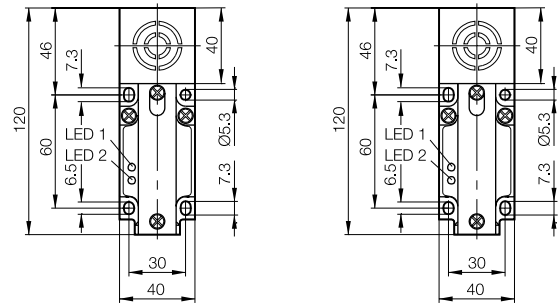
## Block design, 40×40 mm Unisensor



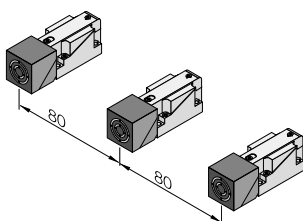
Inductive Sensors  
Global DC 3-wire  
DC 3-/4-wire  
Cylinder Designs  
**Block Designs**  
DC 2-wire  
AC/DC 2-wire  
AC 2-wire  
Special Properties  
Analog Distance Measurement  
Accessories

Model	40×40×120 mm Unisensor	40×40×120 mm Unisensor
Installation type (observe instructions in the Basic Information chapter)	Flush	Flush
Rated switching distance $s_n$	<b>15 mm</b>	<b>15 mm</b>
Assured switching distance $s_a$	0...12 mm	0...12 mm
Switching distance marking	■	■
PNP, complementary	<b>BES0201</b>	<b>BES023F</b>
<b>Ordering code</b>		
Part number	BES 517-132-M3-H	BES 517-132-U3-H
Supply voltage $U_s$	10...55 V DC	10...55 V DC
Voltage drop $U_d$ at $I_e$ max.	2.5 V	2.5 V
Rated insulation voltage $U_i$ (protection class)	250 V AC (II)	250 V AC
Rated operating current $I_e$	200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature $T_a$	-25...+70 °C	-25...+70 °C
Switching frequency $f$ max.	100 Hz	100 Hz
Output function indicator	Yellow LED	Yellow LED
Degree of protection as per IEC 60529	IP 67	IP 67
Approvals	CE	CE
Material	Housing: PBT Sensing surface: PBT	Housing: PBT Sensing surface: PBT
Possible installation variations	Image 1...5	Image 1...5
Connection	Screw terminal, metric cable gland	Screw terminal, cable gland NPT

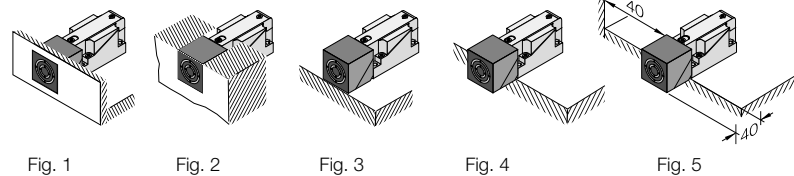
Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.



### Row mounting



### Installation variations



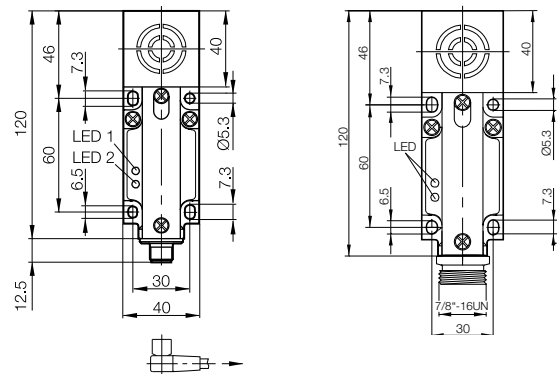
# DC 3-/4-wire Inductive Sensors

## Block design, 40x40 mm Unisensor



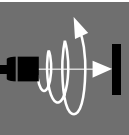
Model	40x40x120 mm Unisensor	40x40x120 mm Unisensor	
Installation type (observe instructions in the Basic Information chapter)	Flush	Flush	
Rated switching distance $s_n$	<b>15 mm</b>	<b>15 mm</b>	
Assured switching distance $s_a$	0...12 mm	0...12 mm	
Switching distance marking	■	■	
PNP, complementary	<b>Ordering code</b> Part number	<b>BES0202</b> BES 517-132-M3-H-S4	<b>BES023J</b> BES 517-132-U3-H-S5
NPN, complementary	<b>Ordering code</b> Part number	<b>BES020H</b> BES 517-134-M3-H-S4	
Supply voltage $U_s$	10...55 V DC	10...55 V DC	
Voltage drop $U_d$ at $I_e$ max.	2.5 V	2.5 V	
Rated insulation voltage $U_i$ (protection class)	250 V AC (II)	250 V AC	
Rated operating current $I_e$	200 mA	200 mA	
Polarity reversal protected/transposition protected/short-circuit protected	Yes/Yes/Yes	Yes/Yes/Yes	
Ambient temperature $T_a$	-25...+70 °C	-25...+70 °C	
Switching frequency $f$ max.	100 Hz	100 Hz	
Output function indicator	Yellow LED	Yellow LED	
Degree of protection as per IEC 60529	IP 67	IP 67	
Approvals	CE, cULus	CE	
Material	Housing: PBT Sensing surface: PBT	PBT PBT	
Possible installation variations	Image 1...5	Image 1...5	
Connection	M12 connector, 4-pin	7/8" 16UN plug connector, 5-pin	

Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.



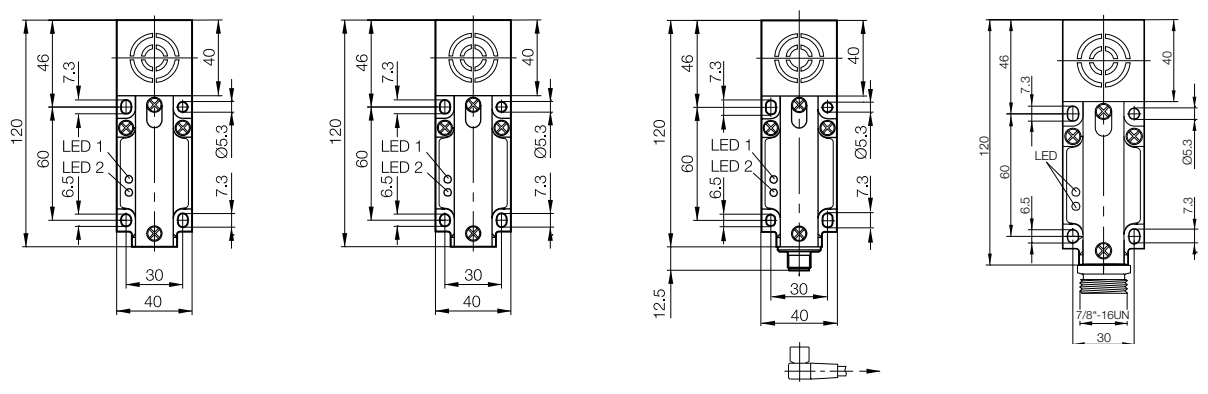
# DC 3-/4-wire Inductive Sensors

## Block design, 40×40 mm Unisensor



Inductive Sensors  
Global DC 3-wire  
DC 3-/4-wire  
Cylinder Designs  
**Block Designs**  
DC 2-wire  
AC/DC 2-wire  
AC 2-wire  
Special Properties  
Analog Distance Measurement  
Accessories

40×40×120 mm Unisensor	40×40×120 mm Unisensor	40×40×120 mm Unisensor	40×40×120 mm Unisensor
Flush	Flush	Flush	Flush
<b>20 mm</b>	<b>20 mm</b>	<b>20 mm</b>	<b>20 mm</b>
0...16 mm	0...16 mm	0...16 mm	0...16 mm
■	■	■	■
<b>BES0209</b>	<b>BES023L</b>	<b>BES020A</b>	
BES 517-132-M6-H	BES 517-132-U6-H	BES 517-132-M6-H-S4	
<b>BES020M</b>		<b>BES020N</b>	<b>BES020P</b>
BES 517-134-M6-H		BES 517-134-M6-H-S4	BES 517-134-M6-H-S5
10...55 V DC	10...55 V DC	10...55 V DC	10...55 V DC
2.5 V	2.5 V	2.5 V	2.5 V
250 V AC (□)	250 V AC (□)	250 V AC (□)	250 V AC (□)
200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
50 Hz	50 Hz	50 Hz	50 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 67	IP 67	IP 67	IP 67
CE	CE	CE	CE
PBT	PBT/aluminum	PBT	PBT
PBT	PBT	PBT	PBT
Image 1...5	Image 1...5	Image 1...5	Image 1...5
Screw terminal, metric cable gland	Screw terminal, cable gland NPT	M12 connector, 4-pin	7/8" 16UN plug connector, 5-pin





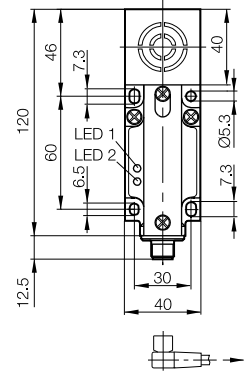
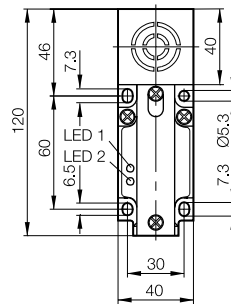
# DC 3-/4-wire Inductive Sensors

## Block design, 40x40 mm Unisensor



Model		40x40x120 mm Unisensor	40x40x120 mm Unisensor
Installation type (observe instructions in the Basic Information chapter)		Not flush	Not flush
Rated switching distance $s_n$		<b>20 mm</b>	<b>20 mm</b>
Assured switching distance $s_a$		0...16 mm	0...16 mm
Switching distance marking		■	■
PNP, NO	<b>Ordering code</b>		
	Part number		
PNP, complementary	<b>Ordering code</b>	<b>BES0204</b>	<b>BES0205</b>
	Part number	BES 517-132-M4-H	BES 517-132-M4-H-S4
NPN, complementary	<b>Ordering code</b>	<b>BES020J</b>	
	Part number	BES 517-134-M4-H	
Supply voltage $U_s$		10...55 V DC	10...55 V DC
Voltage drop $U_d$ at $I_e$ max.		2.5 V	2.5 V
Rated insulation voltage $U_i$ (protection class)		250 V AC (□)	250 V AC (□)
Rated operating current $I_e$		200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature $T_a$		-25...+70 °C	-25...+70 °C
Switching frequency $f$ max.		100 Hz	100 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Approvals		CE	CE
Material	Housing	PBT	PBT
	Sensing surface	PBT	PBT
Possible installation variations		Image 3...5	Image 3...5
Connection		Screw terminal, metric cable gland	M12 connector, 4-pin

Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.

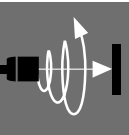


# DC 3-/4-wire Inductive Sensors

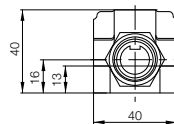
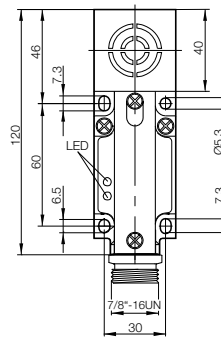
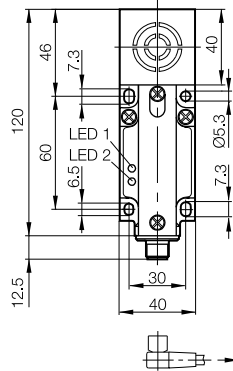
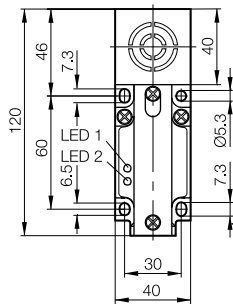
## Block design, 40×40 mm Unisensor



40×40×120 mm Unisensor	40×40×120 mm Unisensor	40×40×120 mm Unisensor	
Not flush	Not flush	Not flush	
<b>25 mm</b>	<b>25 mm</b>	<b>25 mm</b>	
0...20 mm	0...20 mm	0...20 mm	
■	■	■	
<b>BES0235</b>	<b>BES0236</b>	<b>BES0312</b>	
BES 517-385-MV-C	BES 517-385-V-C-S4	BES 517-134-U4-H-S5	
10...30 V DC	10...30 V DC	10...55 V DC	
3.5 V	3.5 V	2.5 V	
250 V AC (□)	250 V AC (□)	250 V AC (□)	
200 mA	200 mA	200 mA	
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	
-25...+70 °C	-25...+70 °C	-25...+70 °C	
50 Hz	50 Hz	100 Hz	
Yellow LED	Yellow LED	Yellow LED	
IP 67	IP 67	IP 67	
CE	CE	CE, cULus	
PBT	PBT	PBT	
PBT	PBT	PBT	
Image 3...5	Image 3...5	Image 3...5	
Screw terminal, metric cable gland	M12 connector, 4-pin	7/8" 16UN plug connector, 5-pin	



- Inductive Sensors
- Global DC 3-wire
- DC 3-/4-wire
- Cylinder Designs
- Block Designs
- DC 2-wire
- AC/DC 2-wire
- AC 2-wire
- Special Properties
- Analog Distance Measurement
- Accessories



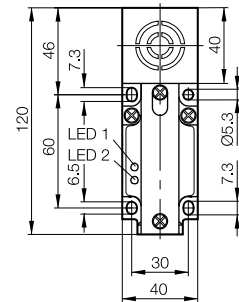
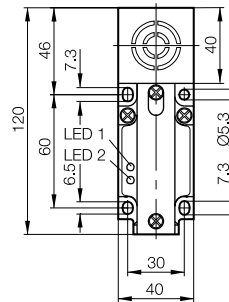
# DC 3-/4-wire Inductive Sensors

## Block design, 40x40 mm Unisensor



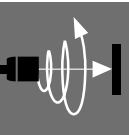
Model		40x40x120 mm Unisensor	40x40x120 mm Unisensor
Installation type (observe instructions in the Basic Information chapter)		Not flush	Not flush
Rated switching distance $s_n$		<b>30 mm</b>	<b>30 mm</b>
Assured switching distance $s_a$		0...24 mm	0...24 mm
Switching distance marking		■	■
PNP, NO	<b>Ordering code</b>	<b>BES0206</b>	
	Part number	BES 517-132-M5-H	
PNP, complementary	<b>Ordering code</b>		
	Part number		
NPN, complementary	<b>Ordering code</b>	<b>BES020K</b>	<b>BES023N</b>
	Part number	BES 517-134-M5-H	BES 517-134-U5-H
Supply voltage $U_s$		10...55 V DC	10...55 V DC
Voltage drop $U_d$ at $I_e$ max.		2.5 V	2.5 V
Rated insulation voltage $U_i$ (protection class)		250 V AC (□)	250 V AC (□)
Rated operating current $I_e$		200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature $T_a$		-25...+70 °C	-25...+70 °C
Switching frequency $f$ max.		60 Hz	60 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67
Approvals		CE	CE
Material	Housing	PBT	PBT/aluminum
	Sensing surface	PBT	PBT
Possible installation variations		Image 3...5	Image 3...5
Connection		Screw terminal, metric cable gland	Screw terminal, cable gland NPT

Wiring diagrams, see page 958.  
The meaning of switching distance markings can be found on page 962.



# DC 3-/4-wire Inductive Sensors

## Block design, 40×40 mm Unisensor



Inductive Sensors  
Global DC 3-wire  
DC 3-/4-wire  
Cylinder Designs  
**Block Designs**  
DC 2-wire  
AC/DC 2-wire  
AC 2-wire  
Special Properties  
Analog Distance Measurement  
Accessories

40×40×120 mm Unisensor	40×40×120 mm Unisensor	40×40×120 mm Unisensor	40×40×120 mm Unisensor
Not flush	Not flush	Not flush	Not flush
<b>30 mm</b>	<b>40 mm</b>	<b>40 mm</b>	<b>40 mm</b>
0...24 mm	0...32 mm	0...32 mm	0...32 mm
■	■	■	■
<b>BES0207</b>	<b>BES020C</b>	<b>BES023M</b>	<b>BES020E</b>
BES 517-132-M5-H-S4	BES 517-132-M7-H	BES 517-132-U7-H	BES 517-132-M7-H-S4
10...55 V DC	10...55 V DC	10...55 V DC	10...55 V DC
2.5 V	2.5 V	2.5 V	2.5 V
250 V AC (□)	250 V AC (□)	250 V AC (□)	250 V AC (□)
200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
60 Hz	50 Hz	50 Hz	50 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 67	IP 67	IP 67	IP 67
CE	CE	CE	CE
PBT	PBT	PBT/aluminum	PBT
PBT	PBT	PBT	PBT
Image 3...5	Image 3...5	Image 3...5	Image 3...5
M12 connector, 4-pin	Screw terminal, metric cable gland	Screw terminal, cable gland NPT	M12 connector, 4-pin

