

Optic Sensors

Description of the typekey

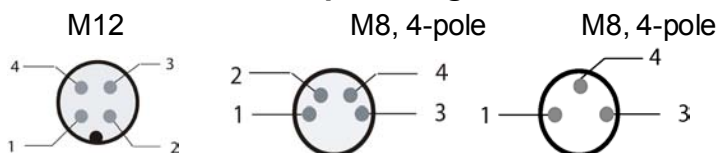
Expl.: **MP-D 0300 D- C X 9 C 3 U 2- PD**

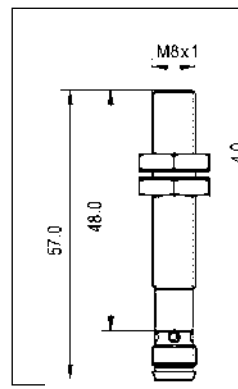
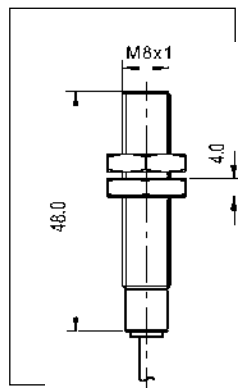
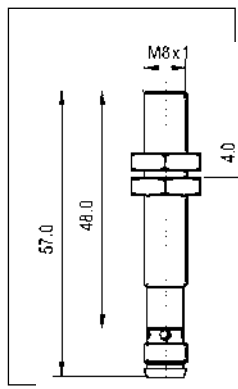
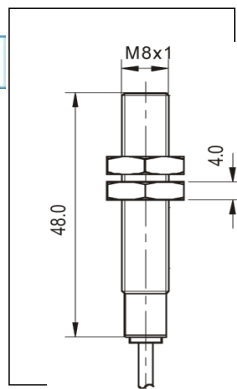
<p>MP Series Style MP</p>	<p>0016 Sensing Distance 16 mm 0300 Sensing Distance 300 mm 020M Sensing Distance 20m</p>	<p>D PNP+NPN N NPN P PNP A AC R Relay Contact Output</p>	<p>C Light / Dark Changeover L Light D Dark E Emitter</p>	<p>X Axial Z Radial</p>	<p>5 Green Light 6 Red Light 9 Infrared Light</p>	<p>C Cable Q Connector T Terminal</p>	<p>3 Cable/Connector 3-pol. 4 Cable/Connector 4-pol. 5 Cable/Connector 5-pol. 8 Cable/Connector 8-pol.</p>	<p>U Whit Short Circuit Protection L Whitout Short Circuit Protection</p>	<p>2 Cable Lenght 2 m 9 Cable Lenght 9 m P M8 Connector E M12 Connector</p>	<p>I PF Polarizing Filter BS Background Suppression L Translucent Material Detector PD Plastic Detection N Narrow Light K Mark Sensor For Fiber Optic Mode 1 Light Spot Size 1x1mm 4 Light Spot Size 4x4mm S Cable Connection Swivel 90°</p>
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Optical Sensors - Connection diagrams

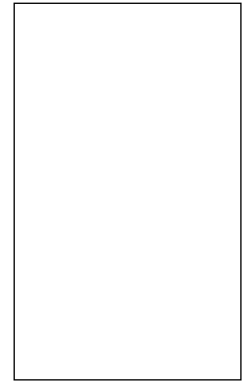
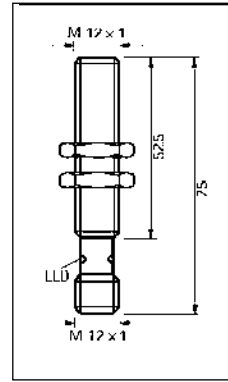
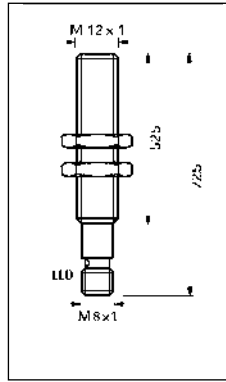
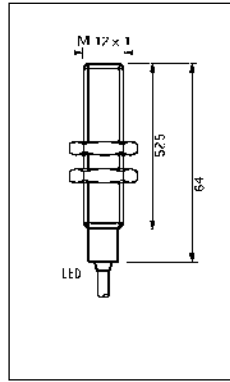
Circuit diagram for:	for Series:	Connection assignment
DC PNP	M8	
DC NPN light/dark	UP; M12; M30	
DC PNP light/dark	UP; M12; M30	
DC NPN/PNP	MP; EP	
DC NPN hell/dunkel umschaltbar	RP64; M18	
DC PNP hell/dunkel umschaltbar	RP64; M18	
DC NPN/PNP hell/dunkel umschaltbar	RP64	
DC Sender	MP; EP; UP; M30, M8	
DC Sender mit Testeingang	RP64; M12; M18	
AC/DC mit Relaisausgang	RS62	
AC/DC Sender	RS62	

Connector pin assignment





Mode Of Operation	IR Diffuse Mode	IR Diffuse Mode	IR Opposed Mode	IR Opposed Mode
Sensing Distance	80 mm	80 mm	2 m	2 m
Type				
Emitter			M8B-T2000D-EX9C3L2	M8B-T2000D-EX9Q4LP
PNP Dark	M8B-D0080P-LX9C3L2	M8B-D0080P-LX9Q4UP		
PNP Light			M8B-T2000P-DX9C3U2	M8B-T2000P-DX9Q4UP
Light	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Unblinking / Blanking	Light On	Light On	Dark On	Dark On
Max. Output Current I_o	100 mA	100 mA	100 mA	100 mA
Idle Current I_0	< 30 mA	< 30 mA	< 50 mA	< 50 mA
Hysteresis H	< 15 %	< 15 %	< 15 %	< 15 %
Switching Freq. / Response Time	500 Hz / 1 ms	500 Hz / 1 ms	400 Hz / 1,25 ms	400 Hz / 1,25 ms
Ambient Temperature	-10 °C ... + 55 °C	-10 °C ... + 55 °C	-10 °C ... + 55 °C	-10 °C ... + 55 °C
Ambient Light	---	---	---	---
Halogen Light	---	---	---	---
Sun Light	---	---	---	---
Sensitivity Adjustable	no	no	no	no
Output Digital	yes	yes	yes	yes
Output Analog	---	---	---	---
LED - Indicator	yes	yes	yes	yes
Size	M8	M8	M8	M8
Housing Material	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated
Material Light Outlet	---	---	---	---
Protection Class	IP 65	IP 65	IP 65	IP 65
EMC-Standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Termination	Cable, 2m	Connector M8 3pol.	Cable, 2m	Connector M8 3pol.



Mode Of Operation

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

Sensing Distance

200,0 mm

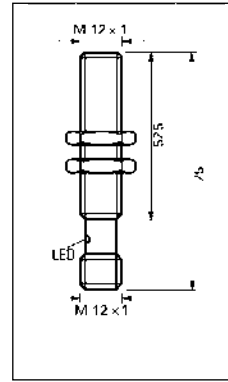
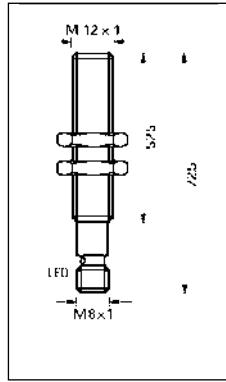
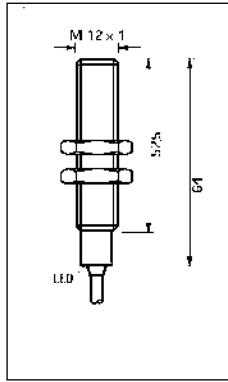
200,0 mm

200,0 mm

	Type	Type	Type	
Emitter				
PNP Light / Dark	M12B-D0200P-CX9C3U2	M12B-D0200P-CX9Q4UP	M12B-D0200P-CX9Q4UE	
NPN Light / Dark	M12B-D0200N-CX9C3U2	M12B-D0200N-CX9Q4UP	M12B-D0200N-CX9Q4UE	
Light	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm	
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	
Unblinking / Blanking	Light On / Dark On	Light On / Dark On	Light On / Dark On	
Max. Output Current I_o	150 mA	150 mA	150 mA	
Idle Current I_0	< 30 mA	< 30 mA	< 30 mA	
Hysteresis H	---	---	---	
Switching Freq. / Response Time	--- / 1 ms	--- / 1 ms	--- / 1 ms	
Ambient Temperature	-25 °C ... + 70 °C	-25 °C ... + 70 °C	-25 °C ... + 70 °C	
Ambient Light	---	---	---	
Halogen Light	---	---	---	
Sun Light	---	---	---	
Sensitivity Adjustable	no	no	no	
Output Digital	yes	yes	yes	
Output Analog	---	---	---	
LED - Indicator	yes	yes	yes	
Size	M12	M12	M12	
Housing Material	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated	
Material Light Outlet	---	---	---	
Protection Class	IP 67	IP 67	IP 67	
EMC-Standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
Termination	Cable, 2m	Connector M8 3pol.	Connector M12 4pol.	



with Polarizing Filter



Mode Of Operation

Retroreflective Mode

Retroreflective Mode

Retroreflective Mode

Sensing Distance

1,0 m

1,0 m

1,0 m

Type

Type

Type

Emitter

PNP Light / Dark

M12B-L1000P-CX6C3U2-PF

M12B-L1000P-CX6Q4UP-PF

M12B-L1000P-CX6Q4UE-PF

NPN Light / Dark

M12B-L1000N-CX6C3U2-PF

M12B-L1000N-CX6Q4UP-PF

M12B-L1000N-CX6Q4UE-PF

Light

Red Light 650 nm

Red Light 650 nm

Red Light 650 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On

Light On / Dark On

Light On / Dark On

Max. Output Current I_o

150 mA

150 mA

150 mA

Idle Current I_o

< 30 mA

< 30 mA

< 30 mA

Hysteresis H

Switching Freq. / Response Time

--- / 1 ms

--- / 1 ms

--- / 1 ms

Ambient Temperature

-25 °C ... + 70 °C

-25 °C ... + 70 °C

-25 °C ... + 70 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

no

no

no

Output Digital

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

Size

M12

M12

M12

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

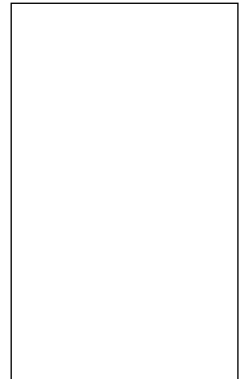
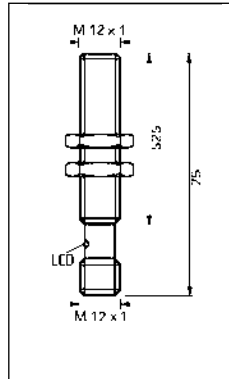
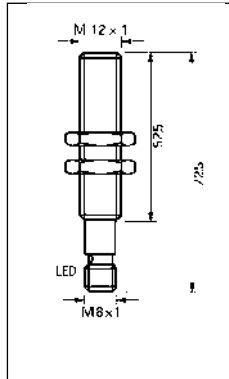
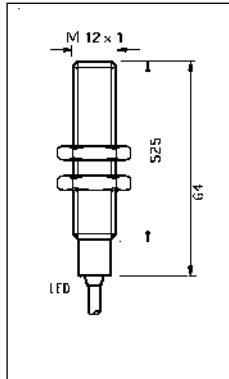
EN 60947-5-2

Termination

Cable , 2m

Connector M8 3pol.

Connector M12 4pol.



Mode Of Operation

Retroreflective Mode

Retroreflective Mode

Retroreflective Mode

Sensing Distance

2,0 m

2,0 m

2,0 m

Type

Type

Type

Emitter

PNP Light / Dark

M12B-L2000P-CX9C3U2

M12B-L2000P-CX9Q4UP

M12B-L2000P-CX9Q4UE

NPN Light / Dark

M12B-L2000N-CX9C3U2

M12B-L2000N-CX9Q4UP

M12B-L2000N-CX9Q4UE

Light

Infrared Light 880 nm

Infrared Light 880 nm

Infrared Light 880 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On

Light On / Dark On

Light On / Dark On

Max. Output Current I_o

150 mA

150 mA

150 mA

Idle Current I_o

< 30 mA

< 30 mA

< 30 mA

Hysteresis H

Switching Freq. / Response Time

--- / 1 ms

--- / 1 ms

--- / 1 ms

Ambient Temperature

-25 °C ... + 70 °C

-25 °C ... + 70 °C

-25 °C ... + 70 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

no

no

no

Output Digital

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

Size

M12

M12

M12

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

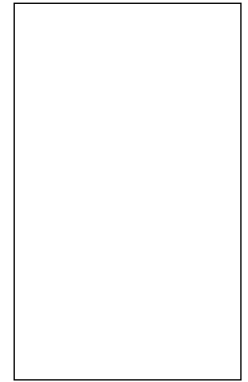
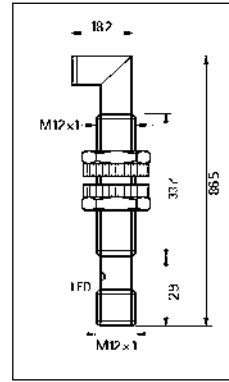
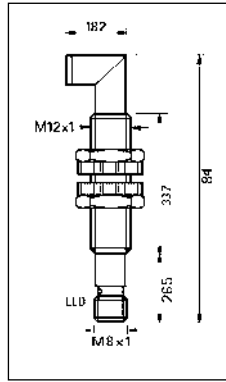
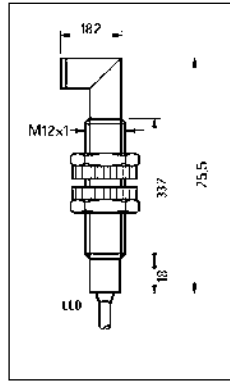
EN 60947-5-2

Termination

Cable, 2m

Connector M8 3pol.

Connector M12 4pol.



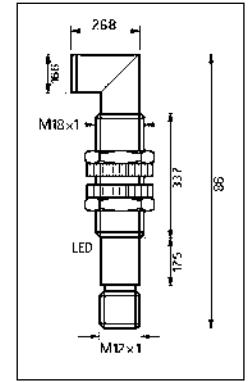
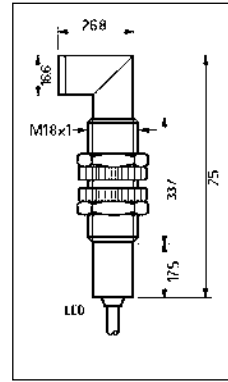
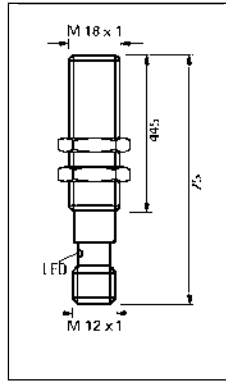
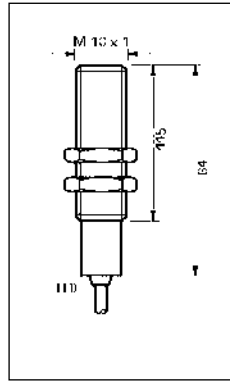
Mode Of Operation
Sensing Distance

IR Opposed Mode
5,2 m

IR Opposed Mode
5,2 m

IR Opposed Mode
5,2 m

	Type	Type	Type	
Emitter	M12B-T5200D-EZ9C3L2	M12B-T5200D-EZ9Q4LP	M12B-T5200D-EZ9Q4LE	
PNP Light / Dark	M12B-T5200P-CZ9C3U2	M12B-T5200P-CZ9Q4UP	M12B-T5200P-CZ9Q4UE	
NPN Light / Dark	M12B-T5200N-CZ9C3U2	M12B-T5200N-CZ9Q4UP	M12B-T5200N-CZ9Q4UE	
Light	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm	
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	
Unblinking / Blanking	Light On / Dark On	Light On / Dark On	Light On / Dark On	
Max. Output Current I_o	150 mA	150 mA	150 mA	
Idle Current I_0	< 30 mA	< 30 mA	< 30 mA	
Hysteresis H	---	---	---	
Switching Freq. / Response Time	--- / 1 ms	--- / 1 ms	--- / 1 ms	
Ambient Temperature	-25 °C ... + 70 °C	-25 °C ... + 70 °C	-25 °C ... + 70 °C	
Ambient Light	---	---	---	
Halogen Light	---	---	---	
Sun Light	---	---	---	
Sensitivity Adjustable	no	no	no	
Output Digital	yes	yes	yes	
Output Analog	---	---	---	
LED - Indicator	yes	yes	yes	
Size	M12	M12	M12	
Housing Material	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated	
Material Light Outlet	---	---	---	
Protection Class	IP 67	IP 67	IP 67	
EMC-Standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
Termination	Cable, 2m	Connector M8 3pol.	Connector M12 4pol.	



Mode Of Operation

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

Sensing Distance

150,0 mm

150,0 mm

150,0 mm

150,0 mm

Type

Type

Type

Type

Emitter

PNP Light / Dark

M18B-D0150P-CX9C4U2

M18B-D0150P-CX9Q4UE

M18B-D0150P-CZ9C4U2

M18B-D0150P-CZ9Q4UE

NPN Light / Dark

M18B-D0150N-CX9C4U2

M18B-D0150N-CX9Q4UE

M18B-D0150N-CZ9C4U2

M18B-D0150N-CZ9Q4UE

Light

Infrared Light 880 nm

Infrared Light 880 nm

Infrared Light 880 nm

Infrared Light 880 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On; selectable by „control“ input

Light On / Dark On; selectable by „control“ input

Max. Output Current I_o

200 mA

200 mA

200 mA

200 mA

Idle Current I_o

< 30 mA

< 30 mA

< 30 mA

< 30 mA

Hysteresis H

Switching Freq. / Response Time

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

Ambient Temperature

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

yes

yes

yes

yes

Output Digital

yes

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

yes

Size

M18

M18

M18

M18

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

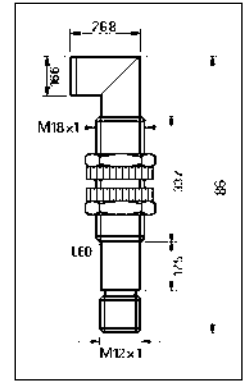
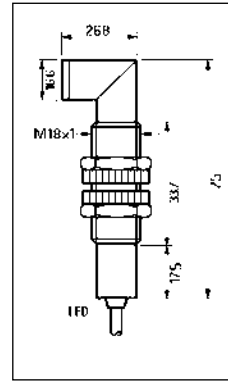
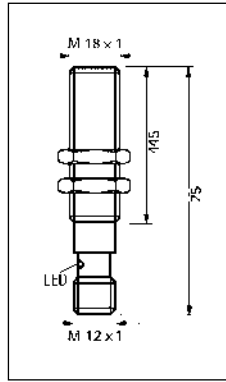
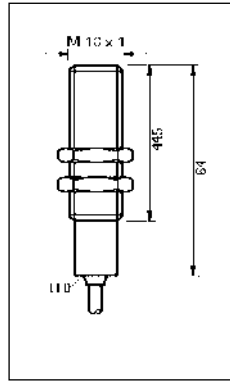
Termination

Cable, 2m

Connector M12 4pol.

Cable, 2m

Connector M12 4pol.



Mode Of Operation

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

Sensing Distance

500,0 mm

500,0 mm

500,0 mm

500,0 mm

Type

Type

Type

Type

Emitter

PNP Light / Dark

M18B-D0500P-CX9C4U2

M18B-D0500P-CX9Q4UE

M18B-D0500P-CZ9C4U2

M18B-D0500P-CZ9Q4UE

NPN Light / Dark

M18B-D0500N-CX9C4U2

M18B-D0500N-CX9Q4UE

M18B-D0500N-CZ9C4U2

M18B-D0500N-CZ9Q4UE

Light

Infrared Light 880 nm

Infrared Light 880 nm

Infrared Light 880 nm

Infrared Light 880 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On; selectable by „control“ input

Light On / Dark On; selectable by „control“ input

Max. Output Current I_o

200 mA

200 mA

200 mA

200 mA

Idle Current I_o

< 30 mA

< 30 mA

< 30 mA

< 30 mA

Hysteresis H

Switching Freq. / Response Time

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

Ambient Temperature

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

yes

yes

yes

yes

Output Digital

yes

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

yes

Size

M18

M18

M18

M18

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

Termination

Cable, 2m

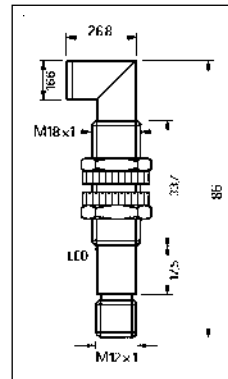
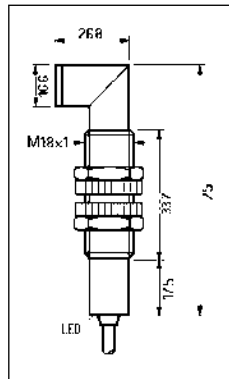
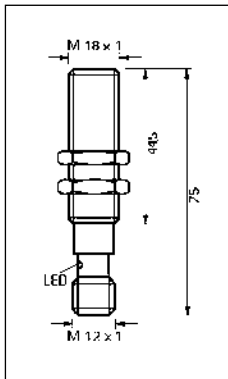
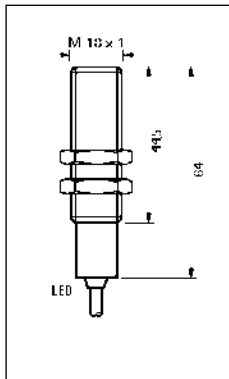
Connector M12 4pol.

Cable, 2m

Connector M12 4pol.



with Polarizing Filter



Mode Of Operation

Retroreflective Mode

Retroreflective Mode

Retroreflective Mode

Retroreflective Mode

Sensing Distance

1,0 m

1,0 m

1,0 m

1,0 m

Type

Type

Type

Type

Emitter

PNP Light / Dark

M18B-L1000P-CX6C4U2-PF

M18B-L1000P-CX6Q4UE-PF

M18B-L1000P-CZ6C4U2-PF

M18B-L1000P-CZ6Q4UE-PF

NPN Light / Dark

M18B-L1000N-CX6C4U2-PF

M18B-L1000N-CX6Q4UE-PF

M18B-L1000N-CZ6C4U2-PF

M18B-L1000N-CZ6Q4UE-PF

Light

Red Light 660 nm

Red Light 660 nm

Red Light 660 nm

Red Light 660 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On; selectable by „control“ input

Light On / Dark On; selectable by „control“ input

Max. Output Current I_o

200 mA

200 mA

200 mA

200 mA

Idle Current I_o

< 30 mA

< 30 mA

< 30 mA

< 30 mA

Hysteresis H

Switching Freq. / Response Time

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

--- / 1,5 ms

Ambient Temperature

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

-25 °C ... + 55 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

yes

yes

yes

yes

Output Digital

yes

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

yes

Size

M18

M18

M18

M18

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

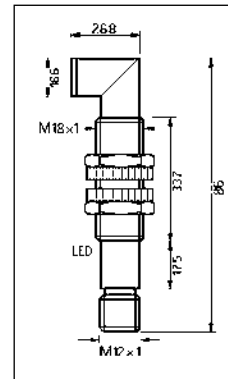
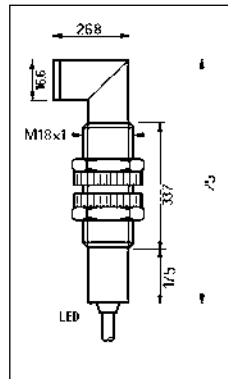
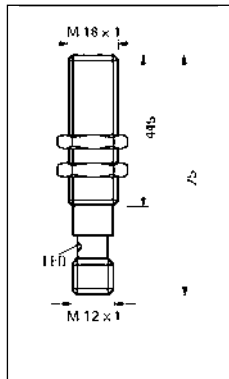
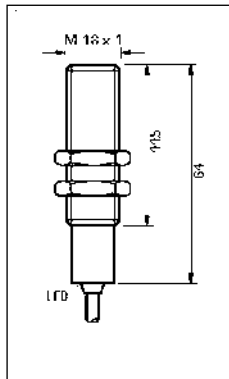
Termination

Cable, 2m

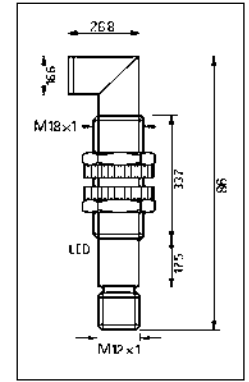
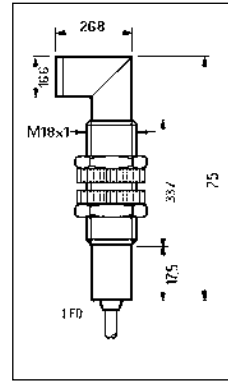
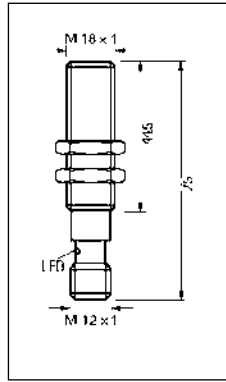
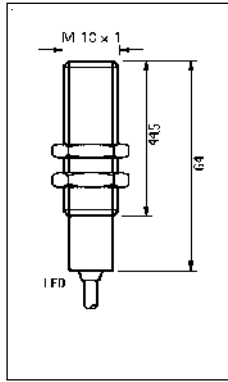
Connector M12 4pol.

Cable, 2m

Connector M12 4pol.



Mode Of Operation	Retroreflective Mode	Retroreflective Mode	Retroreflective Mode	Retroreflective Mode
Sensing Distance	3,0 m	3,0 m	3,0 m	3,0 m
Emitter	Type	Type	Type	Type
PNP Light / Dark	M18B-L3000P-CX9C4U2	M18B-L3000P-CX9Q4UE	M18B-L3000P-CZ9C4U2	M18B-L3000P-CZ9Q4UE
NPN Light / Dark	M18B-L3000N-CX9C4U2	M18B-L3000N-CX9Q4UE	M18B-L3000N-CZ9C4U2	M18B-L3000N-CZ9Q4UE
Light	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Unblinking / Blanking	Light On / Dark On; selectable by „control“ input		Light On / Dark On; selectable by „control“ input	
Max. Output Current I_o	200 mA	200 mA	200 mA	200 mA
Idle Current I_0	< 30 mA	< 30 mA	< 30 mA	< 30 mA
Hysteresis H	---	---	---	---
Switching Freq. / Response Time	--- / 1,5 ms	--- / 1,5 ms	--- / 1,5 ms	--- / 1,5 ms
Ambient Temperature	-25 °C ... + 55 °C	-25 °C ... + 55 °C	-25 °C ... + 55 °C	-25 °C ... + 55 °C
Ambient Light	---	---	---	---
Halogen Light	---	---	---	---
Sun Light	---	---	---	---
Sensitivity Adjustable	yes	yes	yes	yes
Output Digital	yes	yes	yes	yes
Output Analog	---	---	---	---
LED - Indicator	yes	yes	yes	yes
Size	M18	M18	M18	M18
Housing Material	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-plated
Material Light Outlet	---	---	---	---
Protection Class	IP 67	IP 67	IP 67	IP 67
EMC-Standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Termination	Cable, 2m	Connector M12 4pol.	Cable, 2m	Connector M12 4pol.



Mode Of Operation

IR Opposed Mode

IR Opposed Mode

IR Opposed Mode

IR Opposed Mode

Sensing Distance

15,0 m

15,0 m

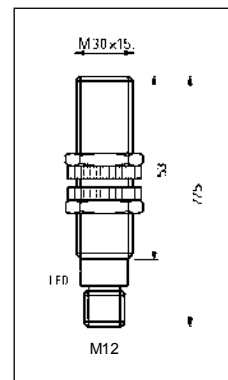
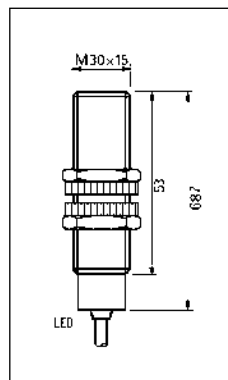
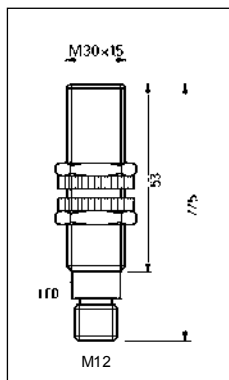
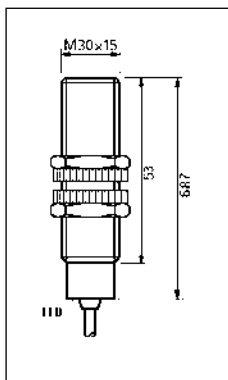
15,0 m

15,0 m

	Type	Type	Type	Type
Emitter	M18B-T015MD-EX9C3L2	M18B-T015MD-EX9Q4LE	M18B-T015MD-EZ9C3L2	M18B-T015MD-EZ9Q4LE
PNP Light / Dark	M18B-T015MP-CX9C4U2	M18B-T015MP-CX9Q4UE	M18B-T015MP-CZ9C4U2	M18B-T015MP-CZ9Q4UE
NPN Light / Dark	M18B-T015MN-CX9C4U2	M18B-T015MN-CX9Q4UE	M18B-T015MN-CZ9C4U2	M18B-T015MN-CZ9Q4UE
Light	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm	Infrared Light 880 nm
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Unblinking / Blanking	Light On / Dark On; selectable by „control“ input		Light On / Dark On; selectable by „control“ input	
Max. Output Current I_o	200 mA	200 mA	200 mA	200 mA
Idle Current I_0	< 30 mA	< 30 mA	< 30 mA	< 30 mA
Hysteresis H	---	---	---	---
Switching Freq. / Response Time	--- / 1,5 ms			
Ambient Temperature	-25 °C ... + 55 °C			
Ambient Light	---			
Halogen Light	---			
Sun Light	---			
Sensitivity Adjustable	yes			
Output Digital	yes			
Output Analog	---			
LED - Indicator	yes			
Size	M18			
Housing Material	Brass Nickel-Plated			
Material Light Outlet	---			
Protection Class	IP 67			
EMC-Standard	EN 60947-5-2			
Termination	Cable, 2m	Connector M12 4pol.	Cable, 2m	Connector M12 4pol.



with
Background Suppression



Mode Of Operation

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

IR Diffuse Mode

Sensing Distance

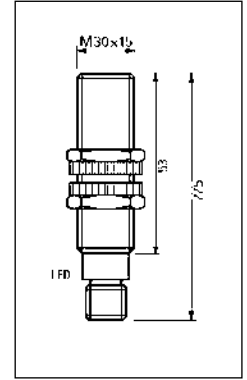
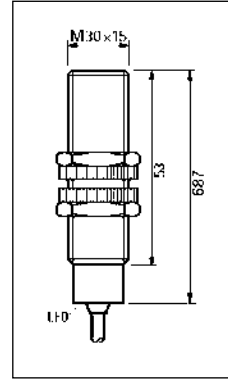
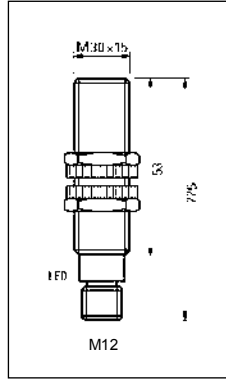
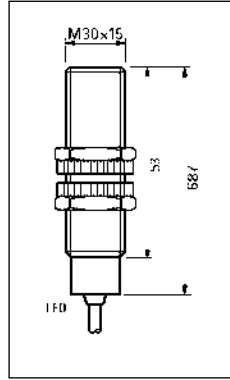
200,0 mm

200,0 mm

400,0 mm

400,0 mm

	Type	Type	Type	Type
Emitter				
PNP Light / Dark	M30B-D0200P-CX9C4U2-BS	M30B-D0200P-CX9Q4UE-BS	M30B-D0400P-CX9C4U2-BS	M30B-D0400P-CX9Q4UE-BS
NPN Light / Dark	M30B-D0200N-CX9C4U2-BS	M30B-D0200N-CX9Q4UE-BS	M30B-D0400N-CX9C4U2-BS	M30B-D0400N-CX9Q4UE-BS
Light	Infrared Mode 880 nm	Infrared Mode 880 nm	Infrared Mode 880 nm	Infrared Mode 880 nm
Operating Voltage U_b	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Unblinking / Blanking	Light On / Dark On	Light On / Dark On	Light On / Dark On	Light On / Dark On
Max. Output Current I_o	150 mA	150 mA	150 mA	150 mA
Idle Current I_0				
Hysteresis H	---	---	---	---
Switching Freq. / Response Time	--- / 3 ms	--- / 3 ms	--- / 3 ms	--- / 3 ms
Ambient Temperature	-40 °C ... + 70 °C	-40 °C ... + 70 °C	-40 °C ... + 70 °C	-40 °C ... + 70 °C
Ambient Light	---	---	---	---
Halogen Light	---	---	---	---
Sun Light	---	---	---	---
Sensitivity Adjustable	no	no	no	no
Output Digital	yes	yes	yes	yes
Output Analog	---	---	---	---
LED - Indicator	yes	yes	yes	yes
Size	M30	M30	M30	M30
Housing Material	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated	Brass Nickel-Plated
Material Light Outlet	---	---	---	---
Protection Class	IP 67	IP 67	IP 67	IP 67
EMC-Standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Termination	Cable, 2m	Connector M12 4pol.	Cable, 2m	Connector M12 4pol.



Mode Of Operation

Sensing Distance

IR Diffuse Mode
with Background Suppression

600,0 mm

IR Diffuse Mode
with Background Suppression

600,0 mm

Retroreflective Mode
with Polarizing Filter

6000,0 mm

Retroreflective Mode
with Polarizing Filter

6000,0 mm

Type

Type

Type

Type

Emitter

PNP Light / Dark

M30B-D0600P-CX9C4U2-BS

M30B-D0600P-CX9Q4UE-BS

M30B-L6000P-CX6C4U2-PF

M30B-L6000P-CX6Q4UE-PF

NPN Light / Dark

M30B-D0600N-CX9C4U2-BS

M30B-D0600N-CX9Q4UE-BS

M30B-L6000N-CX6C4U2-PF

M30B-L6000N-CX6Q4UE-PF

Light

Infrared Light 880 nm

Infrared Light 880 nm

Red Light 650 nm

Red Light 650 nm

Operating Voltage U_b

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

10 - 30 V DC

Unblinking / Blanking

Light On / Dark On

Light On / Dark On

Light On / Dark On

Light On / Dark On

Max. Output Current I_o

150 mA

150 mA

150 mA

150 mA

Idle Current I_o

< 10 mA

< 10 mA

< 10 mA

< 10 mA

Hysteresis H

Switching Freq. / Response Time

--- / 3 ms

--- / 3 ms

--- / 3 ms

--- / 3 ms

Ambient Temperature

-40 °C ... + 70 °C

-40 °C ... + 70 °C

-40 °C ... + 70 °C

-40 °C ... + 70 °C

Ambient Light

Halogen Light

Sun Light

Sensitivity Adjustable

no

no

no

no

Output Digital

yes

yes

yes

yes

Output Analog

LED - Indicator

yes

yes

yes

yes

Size

M30

M30

M30

M30

Housing Material

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Brass Nickel-Plated

Material Light Outlet

Protection Class

IP 67

IP 67

IP 67

IP 67

EMC-Standard

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

EN 60947-5-2

Termination

Cable, 2m

Connector M12 4pol.

Cable, 2m

Connector M12 4pol.

Product Overview

Site	Sensortype	Sensing Distance	Light Source	Comments
Diffuse Mode				
4	M8B-D0080...	8 cm	IR	--
5	M12B-D0200...	20 cm	IR	--
10	M18B-D0150...	15 cm	IR	--
11	M18B-D0500...	50 cm	IR	--
15	M30B-D0200...	20 cm	IR	with background suppression
15	M30B-D0400...	40 cm	IR	with background suppression
16	M30B-D0600...	60 cm	IR	with background suppression
Retroreflective Mode				
6	M12B-L1000...	1 m	Red	with polarizing filter
7	M12B-L2000...	2 m	IR	without polarizing filter
12	M18B-L1000...	1 m	Red	with polarizing filter
13	M18B-L3000...	3 m	IR	without polarizing filter
16	M30B-L6000...	6 m	IR	with polarizing filter
Opposed Mode				
4	M8B-T2000...	2 m	IR	axial
8	M12B-T5200... - ...X...	5,2 m	IR	axial
9	M12B-T5200... - ...Z...	5,2 m	IR	radial
14	M18B-T0150... - ...X...	15 m	IR	axial
14	M18B-T0150... - ...Z...	15 m	IR	radial

Discription	Art-Nr.	Site	Discription	Art-Nr.	Site
Typekey		2	M18B-D0500N-CX9C4U2	08361250218	11
Connection diagrams		3	M18B-D0500P-CX9C4U2	08361250219	11
M8			M18B-D0500N-CX9Q4UE	08361250220	11
M8B-D0080P-LX9C3L2	08361817500	4	M18B-D0500P-CX9Q4UE	08361250221	11
M8B-D0080P-LX9Q4UP	08361817564	4	M18B-D0500N-CZ9C4U2	08361250224	11
M8B-T2000D-EX9C3L2	08363817600	4	M18B-D0500P-CZ9C4U2	08361250225	11
M8B-T2000P-DX9C3U2	08363817700	4	M18B-D0500N-CZ9Q4UE	08361250226	11
M8B-T2000D-EX9Q4LP	08363817664	4	M18B-D0500P-CZ9Q4UE	08361250227	11
M8B-T2000P-DX9Q4UP	08363817764	4			
M12			M18B-L1000N-CX6C4U2-PF	08362250254	12
M12B-D0200N-CX9C3U2	08361245122	5	M18B-L1000P-CX6C4U2-PF	08362250255	12
M12B-D0200P-CX9C3U2	08361245123	5	M18B-L1000N-CX6Q4UE-PF	08362250256	12
M12B-D0200N-CX9Q4UP	08361245124	5	M18B-L1000P-CX6Q4UE-PF	08362250257	12
M12B-D0200P-CX9Q4UP	08361245125	5	M18B-L1000N-CZ6C4U2-PF	08362250260	12
M12B-D0200N-CX9Q4UE	08361245126	5	M18B-L1000P-CZ6C4U2-PF	08362250261	12
M12B-D0200P-CX9Q4UE	08361245127	5	M18B-L1000N-CZ6Q4UE-PF	08362250262	12
			M18B-L1000P-CZ6Q4UE-PF	08362250263	12
M12B-L1000N-CX6C3U2-PF	08362245122	6			
M12B-L1000P-CX6C3U2-PF	08362245123	6	M18B-L3000N-CX9C4U2	08362250218	13
M12B-L1000N-CX6Q4UP-PF	08362245124	6	M18B-L3000P-CX9C4U2	08362250219	13
M12B-L1000P-CX6Q4UP-PF	08362245125	6	M18B-L3000N-CX9Q4UE	08362250220	13
M12B-L1000N-CX6Q4UE-PF	08362245126	6	M18B-L3000P-CX9Q4UE	08362250221	13
M12B-L1000P-CX6Q4UE-PF	08362245127	6	M18B-L3000N-CZ9C4U2	08362250224	13
			M18B-L3000P-CZ9C4U2	08362250225	13
M12B-L2000N-CX9C3U2	08362245158	7	M18B-L3000N-CZ9Q4UE	08362250226	13
M12B-L2000P-CX9C3U2	08362245159	7	M18B-L3000P-CZ9Q4UE	08362250227	13
M12B-L2000N-CX9Q4UP	08362245160	7			
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M12B-L2000N-CX9Q4UE	08362245162	7	M18B-T015MN-CX9C4U2	08363250228	14
M12B-L2000P-CX9Q4UE	08362245163	7	M18B-T015MP-CX9C4U2	08363250229	14
			M18B-T015MD-EX9Q4LE	08363250230	14
M12B-T5200D-EX9C3L2	08363245133	8	M18B-T015MN-CX9Q4UE	08363250231	14
M12B-T5200N-CX9C3U2	08363245134	8	M18B-T015MP-CX9Q4UE	08363250232	14
M12B-T5200P-CX9C3U2	08363245135	8			
M12B-T5200D-EX9Q4LP	08363245136	8	M18B-T015MD-EZ9C3L2	08363250236	14
M12B-T5200N-CX9Q4UP	08363245137	8	M18B-T015MN-CZ9C4U2	08363250237	14
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M12B-T5200D-EX9Q4LE	08363245139	8	M18B-T015MD-EZ9Q4LE	08363250239	14
M12B-T5200N-CX9Q4UE	08363245140	8	M18B-T015MN-CZ9Q4UE	08363250240	14
M12B-T5200P-CX9Q4UE	08363245141	8	M18B-T015MP-CZ9Q4UE	08363250241	14
M12B-T5200D-EZ9C3L2	08363245145	9	M30		
M12B-T5200N-CZ9C3U2	08363245146	9	M30B-D0200N-CX9C4U2-BS	08361255016	15
M12B-T5200P-CZ9C3U2	08363245147	9	M30B-D0200P-CX9C4U2-BS	08361255017	15
M12B-T5200D-EZ9Q4LP	08363245148	9	M30B-D0200N-CX9Q4UE-BS	08361255024	15
M12B-T5200N-CZ9Q4UP	08363245149	9	M30B-D0200P-CX9Q4UE-BS	08361255025	15
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M12B-T5200D-EZ9Q4LE	08363245151	9	M30B-D0400N-CX9C4U2-BS	08361255048	15
M12B-T5200N-CZ9Q4UE	08363245152	9	M30B-D0400P-CX9C4U2-BS	08361255049	15
M12B-T5200P-CZ9Q4UE	08363245153	9	M30B-D0400N-CX9Q4UE-BS	08361255056	15
			M30B-D0400P-CX9Q4UE-BS	08361255057	15
M18					
M18B-D0150N-CX9C4U2	08361250254	10	M30B-D0600N-CX9C4U2-BS	08361255080	16
M18B-D0150P-CX9C4U2	08361250255	10	M30B-D0600P-CX9C4U2-BS	08361255081	16
M18B-D0150N-CX9Q4UE	08361250256	10	M30B-D0600N-CX9Q4UE-BS	08361255088	16
M18B-D0150P-CX9Q4UE	08361250257	10	M30B-D0600P-CX9Q4UE-BS	08361255089	16
M18B-D0150N-CZ9C4U2	08361250260	10			
M18B-D0150P-CZ9C4U2	08361250261	10	M30B-L6000N-CX6C4U2-PF	08362255016	16
M18B-D0150N-CZ9Q4UE	08361250262	10	M30B-L6000P-CX6C4U2-PF	08362255017	16
M18B-D0150P-CZ9Q4UE	08361250263	10	M30B-L6000N-CX6Q4UE-PF	08362255024	16
			M30B-L6000P-CX6Q4UE-PF	08362255025	16
			Product overview		20