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INDUCTIVE SENSORS ULTRA MINI

NOTES



INDUCTIVE SENSORS ULTRA MINI

DESIGNATION CODE

Example: **K J 10 - M 30 M B 45 - D P S - V1 - X0000**

1	2	3	4	5	6	7	8	9	10	11	12

1 = Working principle

A	Acoustic		
B	Acceleration sensor		
C	Capacitive		
D	Strain gauge sensor		
H	Hall-effect		
J	Inductive	JR	Inductive ring
		JF	Inductive surface
		JG	Inductive slot
		JD	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
G	Cylindrical housing without thread
M	Cylindrical housing with metrical thread
Q	Square housing

4 = Housing diameter / edge length

5 = Housing material

A	Aluminium
E	Stainless steel
K	Plastic
M	Brass, nickel plated
T	PTFE

6 = Installation

B	Shielded
N	Non shielded

7 = Tube length

8 = Operating voltage

AZ	AC alternating current voltage
D	DC direct current voltage
VZ	AC/DC all voltages

9 = Type of output signal

AN	Analog	ANI	Current output
		ANU	Voltage output
CAN	CAN-bus interface		
N	NPN		
NA	Namur		
P	PNP		
Z	Two wire		

10 = Function

A	Changeover
I	Impulse output
Ö	N.C.
S	N.O.
U	Switchable

11 = Connection

V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint metrical

others as requested

12 = Additional marks

AM	Sensing face in centre
FE	Reduction 1 to steel / iron
HT	High temperature
NF	Reduction 1 to nonferrous metal
SF	Weld field immune
T	Enlarged temperature range
W	Angled sensing face / angled cable exit
X	Customized design with detailed description



INDUCTIVE SENSORS ULTRA MINI

CIRCUIT DIAGRAMS

Circuit diagram for	Cable / clamp connection	Connector V1 ... V9
DPS DC PNP N.O.		
DPÖ DC PNP N.C.		
DPA DC PNP changeover		
DPU DC NO/NC switchable		
DNS DC NPN N.O.		
DNÖ DC NPN N.C.		
DNA DC NPN changeover		
DNU DC NO/NC switchable		
NA Namur EN 60947-5-6		
DZS DC two-wire N.O.		
DZÖ DC two-wire N.C.		
AZS/VZS AC/DC two-wire N.O.		
AZÖ/NZÖ AC/DC two-wire N.C.		
Analog		



CYLINDER G3

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_r	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	$-25^\circ C \dots +70^\circ C$
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm ²

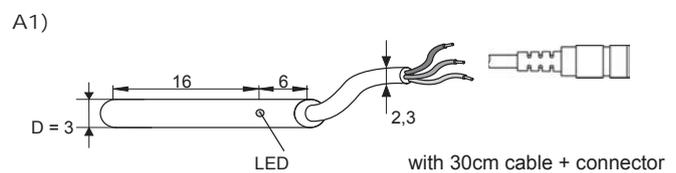
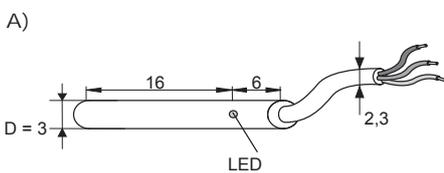


Other cable lengths as requested.

Selection chart

Article number	Designation	Output signal	Switching distance	Drawing
08313030081	SJ0,8-G3EB22-DPS	PNP	0,8mm	A
08313030082	SJ0,8-G3EB22-DPÖ	PNP	0,8mm	A
08313030083	SJ0,8-G3EB22-DNS	NPN	0,8mm	A
08313030084	SJ0,8-G3EB22-DNÖ	NPN	0,8mm	A
08313030086	SJ0,8-G3EB22-DPS-X0429	PNP	0,8mm	A1

Dimensions



all data in mm



INDUCTIVE SENSORS ULTRA MINI

CYLINDER M4

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_r	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$< 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	$-25^\circ C \dots +70^\circ C$
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm ²

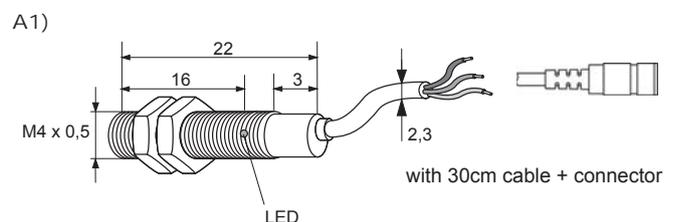
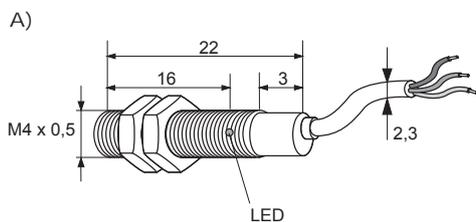


Other cable lengths as requested.

Selection chart

Article number	Designation	Output signal	Switching distance	Drawing
08313040085	SJ0,8-M4EB22-DPS	PNP	0,8mm	A
08313040086	SJ0,8-M4EB22-DPÖ	PNP	0,8mm	A
08313040087	SJ0,8-M4EB22-DNS	PNP	0,8mm	A
08313040088	SJ0,8-M4EB22-DNÖ	NPN	0,8mm	A
08313040089	SJ0,8-M4EB22-DPS-X0429	NPN	0,8mm	A1

Dimensions



all data in mm



INDUCTIVE SENSORS ULTRA MINI

CYLINDER G4

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_r	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	-25°C ... +70°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM



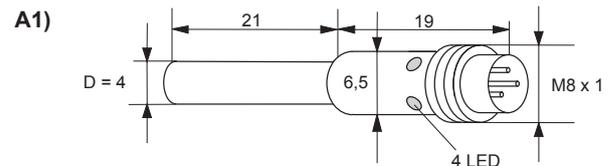
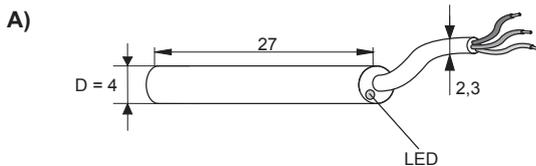
The drawings of these sensors are shown on the following page.

Selection chart

Article number	Designation standard	Output signal	Connection	Switching distance	Drawing
08317801010	KJ0,8-G4EB27-DPS	PNP	2m cable PUR 3 x 0,15mm ²	0,8mm	A
08317801110	KJ0,8-G4EB27-DNS	NPN	2m cable PUR 3 x 0,15mm ²	0,8mm	A
08317801064	KJ0,8-G4EB38-DPS-V1	PNP	connector M8 3-pole	0,8mm	A1
08316801164	KJ0,8-G4EB38-DNS-V1	NPN	connector M8 3-pole	0,8mm	A1

Other cable lengths and output configurations on request.

Dimensions





INDUCTIVE SENSORS ULTRA MINI

CYLINDER M5

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	-25°C ... +70°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM



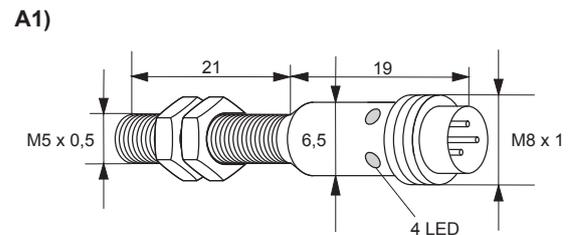
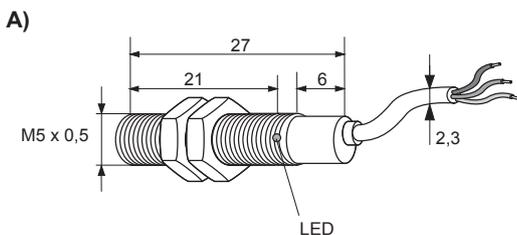
The drawings of these sensors are shown on the following page.

Selection chart

Article number	Designation standard	Output signal	Switching distance	Connection	Drawing
08310000023	KJ0,8-M5EB27-DPS	PNP	0,8mm	2m cable PUR 3 x 0,15mm ²	A
08317802110	KJ0,8-M5EB27DNS	NPN	0,8mm	2m cable PUR 3 x 0,15mm ²	A
08317802064	KJ0,8-M5EB38-DPS-V1	PNP	0,8mm	connector M8 3-pole	A1
08317802464	KJ0,8-M5EB38-DPÖ-V1	NPN	0,8mm	connector M8 3-pole	A1

Other cable lengths and output configurations as requested.

Dimensions





INDUCTIVE SENSORS ULTRA MINI

CYLINDER G6,5

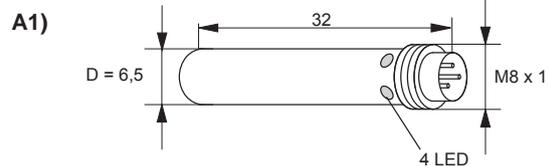
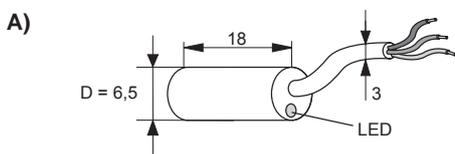
General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_0	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	-25°C ... +70°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM



The selection chart for these sensors is shown on the following page.

Dimensions



all data in mm



CYLINDER G6,5

Selection chart

Article number	Designation standard	Output signal	Switching distance	Connection	Drawing (previous page)
08313650151	KJ1,5-G6,5EB16-DPS	PNP	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313650152	K1,5-G6,5EB16-DPÖ	PNP	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313650153	KJ1,5-G6,5EB16-DNS	NPN	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313650154	KJ1,5-G6,5EB16-DNÖ	NPN	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313651511	KJ1,5-G6,5EB30-DPS-V1	PNP	1,5mm	connector M8 3-pole	A1
08313651521	KJ1,5-G6,5EB30-DPÖ-V1	PNP	1,5mm	connector M8 3-pole	A1
08313651531	KJ1,5-G6,5EB30-DNS-V1	NPN	1,5mm	connector M8 3-pole	A1
08313651541	KJ1,5-G6,5EB30-DNÖ-V1	NPN	1,5mm	connector M8 3-pole	A1
08313650210	KJ2-G6,5EB16-DPS	PNP	2mm	2m cable PUR 3 x 0,15mm ²	A
08313650220	KJ2-G6,5EB16-DPÖ	PNP	2mm	2m cable PUR 3 x 0,15mm ²	A
08313650230	KJ2-G6,5EB16-DNS	NPN	2mm	2m cable PUR 3 x 0,15mm ²	A
08313650240	KJ2-G6,5EB16-DNÖ	NPN	2mm	2m cable PUR 3 x 0,15mm ²	A
08313650211	KJ2-G6,5EB30-DPS-V1	PNP	2mm	connector M8 3-pole	A1
08313650221	KJ2-G6,5EB30-DPÖ-V1	PNP	2mm	connector M8 3-pole	A1
08313650231	KJ2-G6,5EB30-DNS-V1	NPN	2mm	connector M8 3-pole	A1
08313650241	KJ2-G6,5EB30-DNÖ-V1	NPN	2mm	connector M8 3-pole	A1

Other cable lengths as requested.



INDUCTIVE SENSORS ULTRA MINI

CYLINDER M8

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_0	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	$-25^\circ C \dots +70^\circ C$
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM



The drawings of these sensors are shown on the following page.

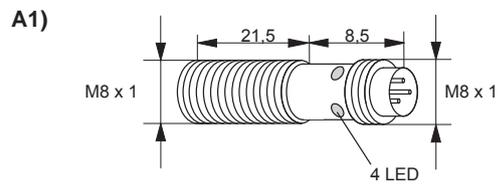
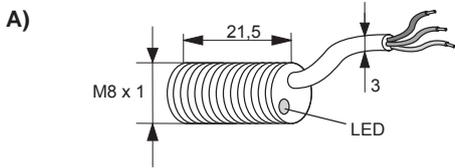
Selection chart

Article number	Designation standard	Output signal	Switching distance	Connection	Drawing (next page)
08313080151	KJ1,5-M8EB16-DPS	PNP	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313080152	KJ1,5-M8EB16-DPÖ	PNP	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313080153	KJ1,5-M8EB16-DNS	NPN	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08313080154	KJ1,5-M8EB16-DNÖ	NPN	1,5mm	2m cable PUR 3 x 0,15mm ²	A
08310000027	KJ1,5-M8EB30-DPS-V1	PNP	1,5mm	connector M8 3-pole	A1
08310000482	KJ1,5-M8EB30-DPÖ-V1	PNP	1,5mm	connector M8 3-pole	A1
08313080157	KJ1,5-M8EB30-DNS-V1	NPN	1,5mm	connector M8 3-pole	A1
08313080158	KJ1,5-M8EB30-DNÖ-V1	NPN	1,5mm	connector M8 3-pole	A1
08313080210	KJ2-M8EB16-DPS	PNP	2mm	2m cable PUR 3 x 0,15mm ²	A
08313080220	KJ2-M8EB16-DPÖ	PNP	2mm	2m cable PUR 3 x 0,15mm ²	A
08313080230	KJ2-M8EB16-DNS	NPN	2mm	2m cable PUR 3 x 0,15mm ²	A
08313080240	KJ2-M8EB16-DNÖ	NPN	2mm	2m cable PUR 3 x 0,15mm ²	A
08313080231	KJ2-M8EB30-DNS-V1	NPN	2mm	connector M8 3-pole	A1
08313080241	KJ2-M8EB30-DNÖ-V1	NPN	2mm	connector M8 3-pole	A1



CYLINDER M8

Dimensions



with two M8 screw nuts each

all data in mm



INDUCTIVE SENSORS ULTRA MINI

SQUARE Q5

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	$\leq 10\%$
Voltage drop U_d	$\leq 1V$
Max. load current	200mA
Off-state current I_0	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency f	2000Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	$-25^\circ C \dots +70^\circ C$
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	brass, nickel-plated
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm ²

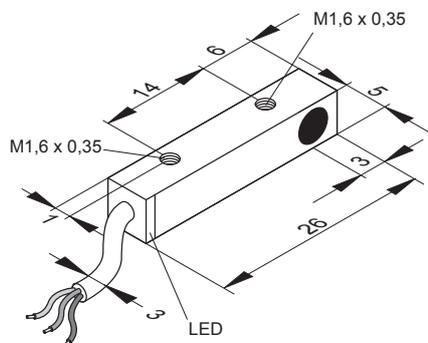


Other cable lengths as requested.

Selection chart

Article number	Designation	Output signal
08313550110	KJ1-Q5MB26-DPS	PNP
08313550120	KJ1-Q5MB26-DPÖ	PNP
08313550130	K1-Q5MB26-DNS	NPN
08313550140	KJ1-Q5MB26-DNÖ	NPN

Dimensions



all data in mm



INDUCTIVE SENSORS ULTRA MINI

PRODUCT OVERVIEW

Product group	Designation	Article number	Matchcode	Page
Inductive Ultra Mini	SJ0,8-G3EB22-DPS	08313030081		5
Inductive Ultra Mini	SJ0,8-G3EB22-DPÖ	08313030082		5
Inductive Ultra Mini	SJ0,8-G3EB22-DNS	08313030083		5
Inductive Ultra Mini	SJ0,8-G3EB22-DNÖ	08313030084		5
Inductive Ultra Mini	SJ0,8-G3EB22-DPS-X0429	08313030086		5
Inductive Ultra Mini	SJ0,8-M4EB22-DPS	08313040085	9980-1010	6
Inductive Ultra Mini	KJ0,8-G4EB27-DPS	08317801010		7
Inductive Ultra Mini	SJ0,8-M4EB22-DPÖ	08313040086		6
Inductive Ultra Mini	SJ0,8-M4EB22-DNS	08313040087	9980-1110	6
Inductive Ultra Mini	KJ0,8-G4EB27-DNS	08317801110		7
Inductive Ultra Mini	SJ0,8-M4EB22-DNÖ	08313040088		6
Inductive Ultra Mini	SJ0,8-M4EB22-DPS-X0429	08313040089		6
Inductive Ultra Mini	KJ0,8-G4EB38-DPS-V1	08317801064	9980-1064	7
Inductive Ultra Mini	KJ0,8-G4EB38-DNS-V1	08316801164	9980-1164	7
Inductive Ultra Mini	KJ0,8-M5EB25-DPS	08310000023	9980-2010	8
Inductive Ultra Mini	KJ0,8-M5EB25-DNS	08317802110	9980-2110	8
Inductive Ultra Mini	KJ0,8-M5EB38-DPS-V1	08317802064	9980-2064	8
Inductive Ultra Mini	KJ0,8-M5EB38-DPÖ-V1	08317802464	9980-2464	8
Inductive Ultra Mini	KJ1-Q5MB26-DPS	08313550110		13
Inductive Ultra Mini	KJ1-Q5MB26-DPÖ	08313550120		13
Inductive Ultra Mini	KJ1-Q5MB26-DNS	08313550130		13
Inductive Ultra Mini	KJ1-Q5MB26-DNÖ	08313550140		13
Inductive Ultra Mini	KJ1,5-G6,5EB16-DPS	08313650151		10
Inductive Ultra Mini	KJ1,5-G6,5EB16-DPÖ	08313650152		10
Inductive Ultra Mini	KJ1,5-G6,5EB16-DNS	08313650153		10
Inductive Ultra Mini	KJ1,5-G6,5EB16-DNÖ	08313650154		10
Inductive Ultra Mini	KJ1,5-G6,5EB30-DPS-V1	08313651511		10
Inductive Ultra Mini	KJ1,5-G6,5EB30-DPÖ-V1	08313651521		10
Inductive Ultra Mini	KJ1,5-G6,5EB30-DNS-V1	08313651531		10
Inductive Ultra Mini	KJ1,5-G6,5EB30-DNÖ-V1	08313651541		10
Inductive Ultra Mini	KJ1,5-M8EB16-DPS	08313080151		11
Inductive Ultra Mini	KJ1,5-M8EB16-DPÖ	08313080152		11
Inductive Ultra Mini	KJ1,5-M8EB16-DNS	08313080153		11
Inductive Ultra Mini	KJ1,5-M8EB16-DNÖ	08313080154		11
Inductive Ultra Mini	KJ1,5-M8EB30-DPS-V1	08310000027		11
Inductive Ultra Mini	KJ1,5-M8EB30-DPÖ-V1	08310000482		11
Inductive Ultra Mini	KJ1,5-M8EB30-DNS-V1	08313080157		11
Inductive Ultra Mini	KJ1,5-M8EB30-DNÖ-V1	08313080158		11
Inductive Ultra Mini	KJ2-G6,5EB16-DPS	08313650210		10
Inductive Ultra Mini	KJ2-G6,5EB16-DPÖ	08313650220		10
Inductive Ultra Mini	KJ2-G6,5EB16-DNS	08313650230		10
Inductive Ultra Mini	KJ2-G6,5EB16-DNÖ	08313650240		10
Inductive Ultra Mini	KJ2-G6,5EB30-DPS-V1	08313650211		10
Inductive Ultra Mini	KJ2-G6,5EB30-DPÖ-V1	08313650221		10



INDUCTIVE SENSORS ULTRA MINI

PRODUCT OVERVIEW

Product group	Designation	Article number	Matchcode	Page
Inductive Ultra Mini	KJ2-G6,5EB30-DNS-V1	08313650231		10
Inductive Ultra Mini	KJ2-G6,5EB30-DNÖ-V1	08313650241		10
Inductive Ultra Mini	KJ2-M8EB16-DPS	08313080210		11
Inductive Ultra Mini	KJ2-M8EB16-DPÖ	08313080220		11
Inductive Ultra Mini	KJ2-M8EB16-DNS	08313080230		11
Inductive Ultra Mini	KJ2-M8EB16-DNÖ	08313080240		11
Inductive Ultra Mini	KJ2-M8EB30-DNS-V1	08313080231		11
Inductive Ultra Mini	KJ2-M8EB30-DNÖ-V1	08313080241		11