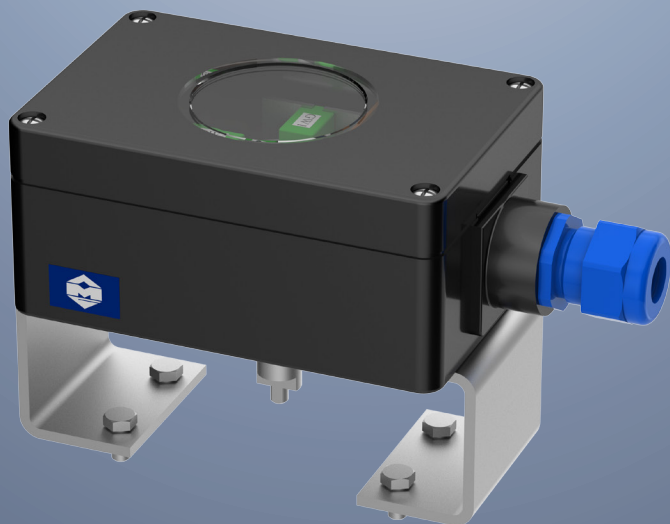
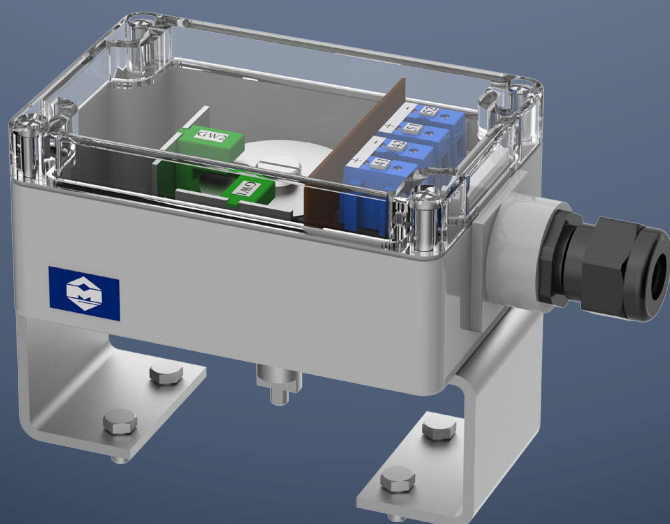


**A110**



**V215**



**M215**

**AMG-PESCH  
LIMIT SWITCH BOX UNITS  
A110 (ATEX)  
V215 (ATEX)  
M215 (IP65)  
WITH PROXIMITY SENSOR**

**DECLARATION OF CONFORMITY ATEX  
ACC. TO DIRECTIVE 2004/34/EU (ATEX)  
ZONE 1 (2) GAS, STEAM,  
ZONE 21/22 DUST**

**A110 – EC TYPE-EXAMINATION  
CERTIFICATE NO.  
195-03 7047**

**V215 - EC TYPE-EXAMINATION  
CERTIFICATE NO.  
195-03 7047**

**INTERFACE ACC. TO  
VDI / VDE 3845**

**AMG-PESCH®**



an **ERIKS** company

**QUALITY IS OUR DRIVE**

# AMG-PESCH®



an **ERIKS** company

Under the names PESCH, AMG and ABK, we are manufacturers and suppliers of complete solutions for valves, pneumatic actuators and controls.

We are active world wide, supported by a network of sales representatives and distributors, supported by our own subsidiaries and group companies.

Our activities comprise the design, manufacturing and sales of high quality pneumatic rack and pinion actuators and related control equipment. These are combined with standard valves from recognised brands or, in case of "ABK", with customised, tailor made solutions, of our own production.

The compact design, high performance valves and actuators of AMG - PESCH are specified where fluids are to be safely and efficiently transmitted in all fields of flow technology and automation. In addition to the company headquarters in Cologne, another site is operated in Zwenkau (Germany).

AMG - Pesch is supported by a reliable team of around 80 employees with a wide-range of expertise, many years of experience and Knowhow, a mature and extensive product range and the latest technology in the field of flow technology and automation.

These factors have made the company one of Germany's leading providers to this industry.

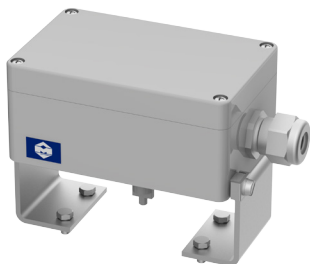
The acquisition of the main assets and commercial activities of AMG - Pesch by ERIKS in 2011 will allow us to continue completing and developing our product range and to further increase customer satisfaction.

Please contact us- we would be happy to provide you with more details and help in choosing your ideal combination. In addition, being part of ERIKS, we can offer you a wide range portfolio of technical products ([www.eriks.com](http://www.eriks.com)).

**Quality is our drive**



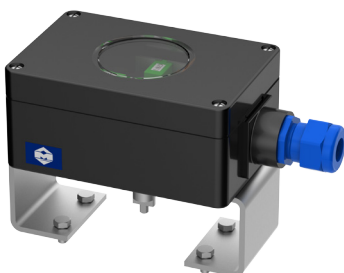
### A110 (ATEX) (IP67)



#### CHARACTERISTICS

- The appliance A110 is certified to Protection class II 2GD Ex ib IIC T4 and Ex ibD21 T 130 ° C under EC Type Examination certificate Nr.: 19503 7047
- Housing cover without viewing window
- Housing material: aluminum (G-ALSi12)
- Degree of protection: IP67 according to DIN 40050
- External ground terminal

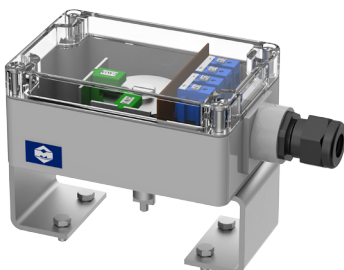
### V215 (ATEX) (IP65)



#### CHARACTERISTICS

- The appliance V215 is certified to Protection class II 2G Ex ib IIC T4 under EC Type Examination certificate Nr.: 195-03 7047
- Housing cover with viewing window
- Variants with INSERTION-SCREW-connection or FITTING-SCREW-connection
- Housing material: Vestamid, black
- Degree of protection: IP65 DIN 40050
- Screw connection M20x1,5

### M215 (IP65)



#### CHARACTERISTICS

- Transparent housing cover
- Variants with INSERTION-SCREW-connection or FITTING-SCREW-connection
- Housing material: Makrolon, gray
- Degree of protection: IP65 DIN 40050
- Screw connection M20x1,5

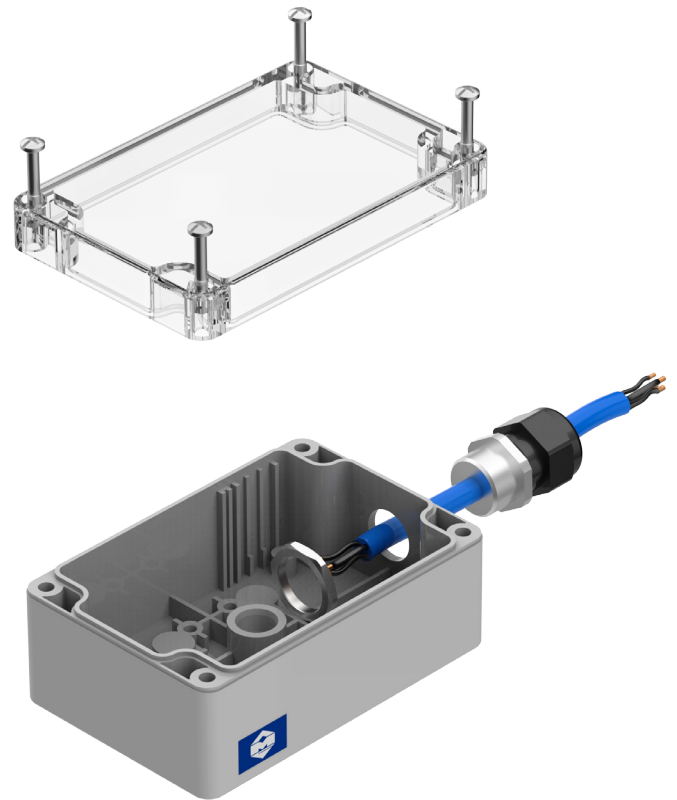
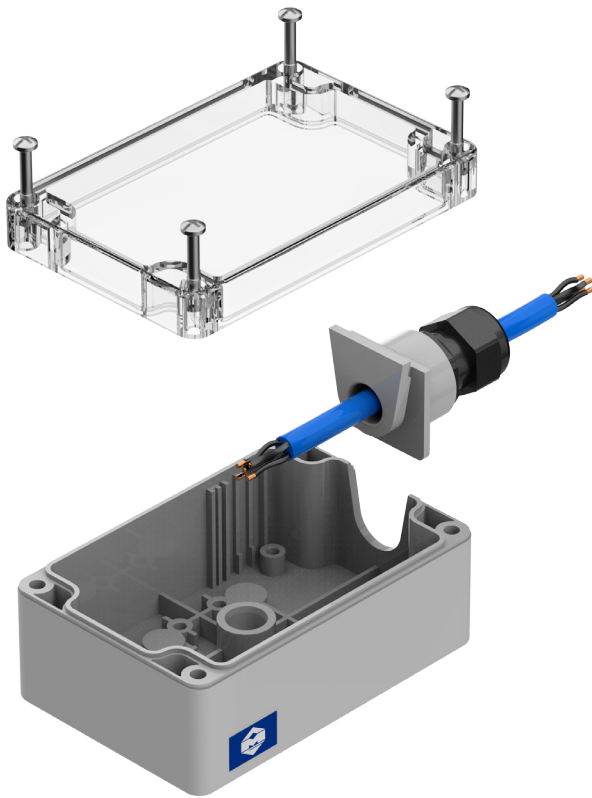
<b>GW</b>	→ Limit value, end position of the limit switches
<b>SFU</b>	→ Switching function with unattenuated end positions (not activated)
<b>SFB</b>	→ Switching function with attenuated end positions (activated)
<b>GW1</b>	→ SFU, CLOSED position, + at terminal 41, - at terminal 42
<b>GW2</b>	→ SFU, OPEN position, + at terminal 51, - at terminal 52
<b>GW3</b>	→ SFB, CLOSED position, + at terminal 45, - at terminal 46
<b>GW4</b>	→ SFB, OPEN position, + at terminal 55, - at terminal 56
<b>MV1</b>	→ Connection for solenoid valve 1, + at terminal 11, - at terminal 12
<b>MV2</b>	→ Connection for solenoid valve 2, + to terminal 13, - to terminal 14
<b>BN</b>	→ Brown, code for color coding according to IEC 60757
<b>BU</b>	→ Blue, code for color coding according to IEC 60757
<b>BK</b>	→ Black, code for color coding according to IEC 60757
<b>L+</b>	→ Connection + for solenoid valve (board version)
<b>L-</b>	→ Connection - for solenoid valve (board version)
<b>S</b>	→ Connection shielding

## LIMIT SWITCH BOX UNITS

TYPE A110 / V215 / M215

### COMPARISON OF INSERTION-SCREW-CONNECTION AND FITTING-SCREW-CONNECTION

The AMG Pesch limit switch box A110 V215 and M215 are in two different housing variants available.



#### HOUSING WITH INSERTION-SCREW-CONNECTION

The INSERTION-SCREW-connection enables a rapid exchange of Limit switch box A110, only the terminal blocks have to be loosened and the fastening screws must be removed.

The FITTING-SCREW-connection does the limit switch box not have to be unscrewed or withdrawn from the cable but can easily with the cable pulled up out of the slot. Further, the connection of the cable by this way is simplified.

#### HOUSING WITH FITTING-SCREW-CONNECTION

In the case of the FITTING-SCREW-connection; for obtaining an increased strength is not as usual to be screwed in the Limit switch box but by a locknut in the housing countered.

## LIMIT SWITCH BOX UNITS

### TYPE A110 / V215 / M215

#### A110

The AMG Pesch limit switch box A110 is an electrical device in type of protection intrinsic safety „ib“, the equipment class II. It is suitable for use in potentially explosive atmospheres fields in zone 1 (2) and 21/22 acc.to DIN EN 60079 and 61241.

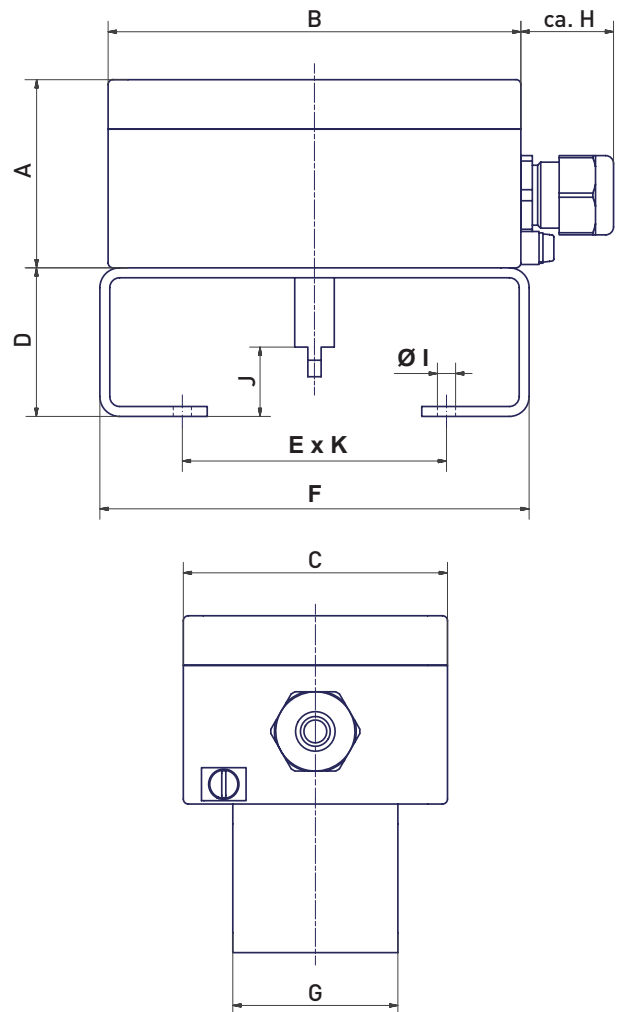
#### PROPERTIES

- The appliances are under 195-03 7047 for the protection class II 2GD Ex ib IIC T4 and Ex ibD21 T 130 ° C certified.
- Housing cover without viewing window
- Only available as FITTING-SCREW-Connection variant
- Exactly factory presetting switches
- Wired ready for connection with integrated Terminal assignment plan
- Easily accessible, pluggable Ex i terminal blocks
- Cable gland M20x1,5
- Mounting kits according to VDI / VDE 3845 in stainless steel
- Maintenance-free sealing of the selector shaft
- External ground terminal

#### TECHNICAL SPECIFICATIONS

- Housing material: aluminum (G-AISI12)
- Degree of protection: IP67 acc. to DIN 40050
- Terminals: Marking acc. to DIN 45140
- Perm. Ambient temperature range\*: -30°C to + 90°C (Observe the temperature range of the mounted switches)
- Application:
  - Zone 1 gas
  - Explosion Group II C
  - Temperature class T6
  - Zone 21/22 Dust
  - D21 T 130°C

\* It should be noted that the specified ambient temperature range is maintained.

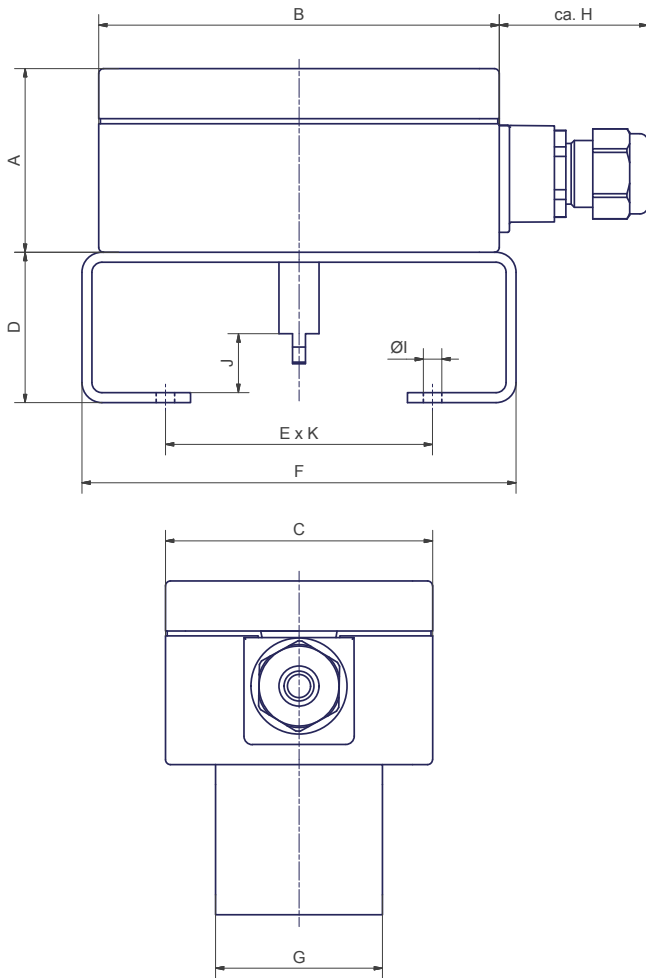


Design	A110		
	05	07-43	45-50
<b>A</b>	57	57	57
<b>B</b>	125	125	125
<b>C</b>	80	80	80
<b>D</b>	45	45	55
<b>E</b>	50	80	130
<b>F</b>	80	130	160
<b>G</b>	50	50	50
<b>H</b>	25	25	25
<b>I</b>	4,5	5,5	5,5
<b>J</b>	21	21	31
<b>K</b>	20	30	30

## LIMIT SWITCH BOX UNITS

### TYPE A110 / V215 / M215

#### V215



Design	V215		
Mounting kit	05	07-43	45-50
<b>A</b>	55	55	55
<b>B</b>	120	120	120
<b>C</b>	80	80	80
<b>D</b>	45	45	55
<b>E</b>	50	80	130
<b>F</b>	80	130	160
<b>G</b>	50	50	50
<b>H</b>	44	44	44
<b>I</b>	4,5	5,5	5,5
<b>J</b>	21	21	31
<b>K</b>	20	30	30
<b>Without INSERTION-SCREW-connection</b>			
<b>H</b>	27	27	27

The AMG-Pesch limit switch box V215 is an electrical device in type of protection intrinsic safety „ib“, equipment class II. It is suitable for use in potentially explosive atmospheres in Zone 1 (2) acc.to DIN EN 60079.

#### PROPERTIES

- The appliances are under 195-03 7047 for the protection class II 2G Ex ib IIC T4 certified.
- Housing cover with viewing window
- Variants with INSERTION-SCREW-connection or a FITTING-SCREW-connection
- Exactly factory presetting switches
- Wired ready for connection with integrated terminal assignment plan
- Easily accessible, pluggable Ex i terminal blocks
- Cable gland M20x1,5
- Mounting kits acc.to VDI / VDE 3845 in stainless steel
- Maintenance-free sealing of the selector shaft

#### TECHNICAL DATA

- Housing material: Vestamid, black
- Conductive material:  $10^{-6}$  ohms
- Degree of protection: IP65 DIN 40050
- Terminals: Marking according to DIN 45140
- Perm. Ambient temperature range\*:  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
(Observe the temperature range of the mounted switches)
- Application:
  - Zone 1 gas
  - Explosion Group II C
  - Temperature class T6

\* It should be noted that the specified ambient temperature range is maintained.

## LIMIT SWITCH BOX UNITS

TYPE A110 / V215 / M215

### M215

The AMG-Pesch limit switch box M215 is not suitable for use in potentially explosive atmospheres. So these Limit switch box are applicable e.g. in the paper and food industry, as well as in mechanical engineering and water management.

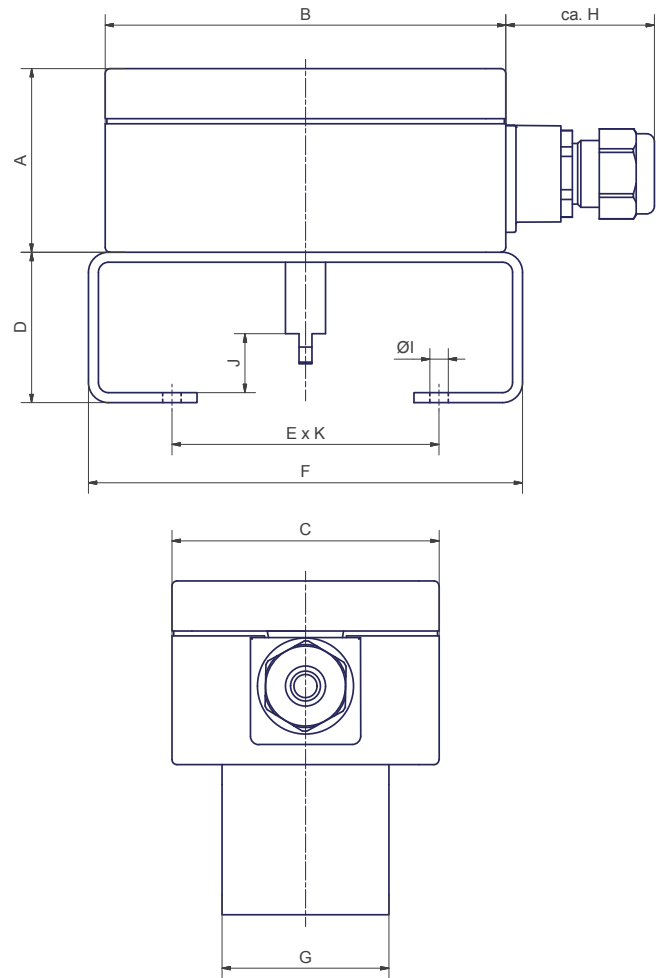
#### PROPERTIES

- Transparent housing cover
- Variants with INSERTION-SCREW-connection or a FITTING-SCREW-Connection
- Exactly factory presetting switches
- Ready wired with integrated terminal assignment plan
- Easily accessible, pluggable terminal blocks
- Cable gland M20x1,5
- Mounting kits acc. to VDI / VDE 3845 in stainless steel
- Maintenance-free sealing of the selector shaft

#### TECHNICAL DATA

- Housing material: Makrolon, gray
- Degree of protection: IP65 DIN 40050
- Terminals: Marking according to DIN 45140
- Perm. Ambient temperature range \*: -25 ° C to + 70 ° C  
(Observe the temperature range of the mounted switches)

\* It should be noted that the specified ambient temperature range is maintained.

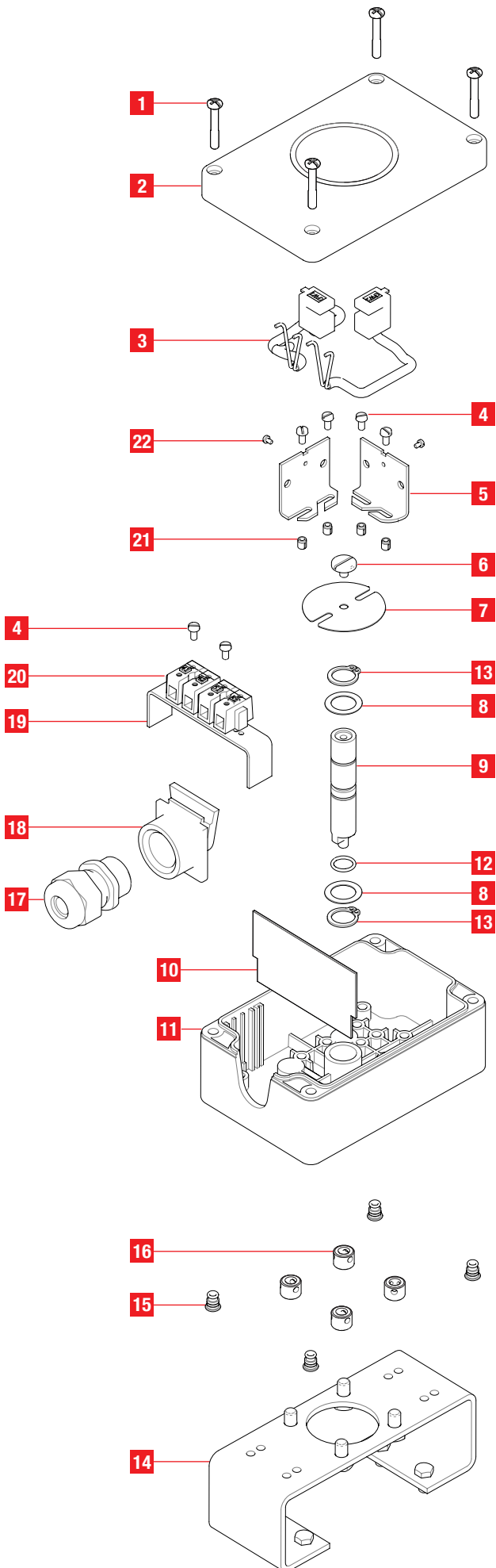


Design	M215		
Mounting kit	05	07-43	45-50
A	55	55	55
B	120	120	120
C	80	80	80
D	45	45	55
E	50	80	130
F	80	130	160
G	50	50	50
H	44	44	44
I	4,5	5,5	5,5
J	21	21	31
K	20	30	30
<b>Without INSERTION-SCREW-connection</b>			
H	27	27	27

## LIMIT SWITCH BOX UNITS

TYPE A110 / V215 / M215

### EXPLODED DRAWING AND PARTS LIST



Position	Qty.	Designation	Material
1	4	Cover screw	stainless steel
2	1	Housing Cover with viewing window	Vestamid (V215) Macrolon (M215)
	1	Housing Cover with * viewing window	Aluminium (A110) Macrolon (M215)
3	2	Proximity switch	synthetic / stainless steel ⑤
4	4-10	Screw	stainless steel ③
5	2	Mounting bracket	stainless steel ③, ④
6	1	Screw	stainless steel
7	1	Actuating element	stainless steel ④
8	2	Adjusting washer	stainless steel
9	1	Coupling bolt	stainless steel ④
10	1	Isolation plate	stainless steel
11	1	Housing bottom with insertion	Vestamid (V215) Macrolon (M215)
	1	Housing bottom with insertion	Aluminium (A110) Vestamid (V215) Macrolon (M215)
12	1	O-Ring	NBR ①
13	2	Circlip	stainless steel
14	1	Mounting kit	stainless steel
15	4	Tread insert	nickel-plated brass
16	4	Tread insert	nickel-plated brass
17	1	Cable gland	polyamide ①
	1-2	Additional Cable gland * (optional)	polyamide or nickel-plated brass ①, ②
18	1	Insertion screw-connection * M20x1,5	Vestamid (V215) Macrolon (M215)
	1	Fitting-Screw-Connection M20x1,5	lock nut nickel-plated brass
19	1	Terminal base	stainless steel ③
20	2	Terminal strip	polyamid ③
21	4-10	Tread insert	nickel-plated brass ③
22	2	Screw	stainless steel ③, ④

\* not illustrated

① Other material on request

② Possible additional options are:

1x M20x1,5 / 1x M16x1,5 / 1x M12x1,5 / 2x M12x1,5

③ Qty. may vary depending on the initiator and version

④ May vary depending on the design and initiator

⑤ Other number, types and version on request



**SWITCHING FUNCTIONS, IDENTIFICATION AND  
TERMINAL ALLOCATION**

**Switching function SFB (end position attenuated):**

For the switching function SFB, the initiators may be only in the end positions attenuated (actuator immersed in the field) none of the initiators may emit a signal during the running process (are unattenuated).

**Switching function SFU (end position unattenuated):**

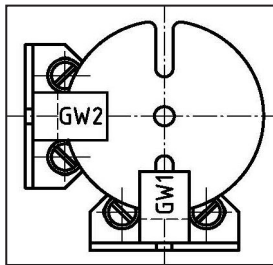
For the SFU switching function, the initiators are in the end positions unattenuated (actuator not immersed in the field) during this process, both initiators must give a signal (are attenuated).

- GW** → Limit value, end position of the limit switches
- SFU** → Switching function unattenuated (not actuated)
- SFB** → Switching function attenuated end positions (activated)
- GW1** → SFU, CLOSED position, + at terminal 41, - at terminal 42
- GW2** → SFU, OPEN position, + at terminal 51, - at terminal 52
- GW3** → SFB, CLOSED position, + at terminal 45, - at terminal 46
- GW4** → SFB, OPEN position, + at terminal 55, - at terminal 56

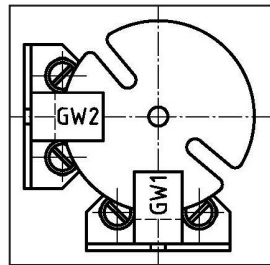
**PRESENTATION OF THE PROCESS**

**Switching function SFU for Slot sensors**

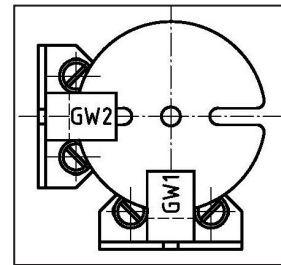
indication CLOSE



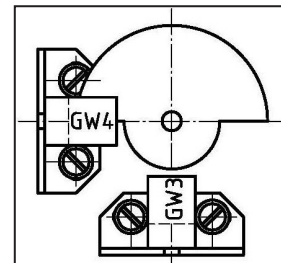
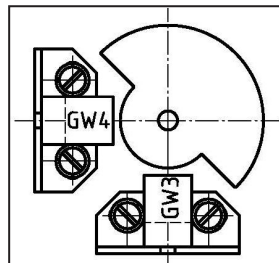
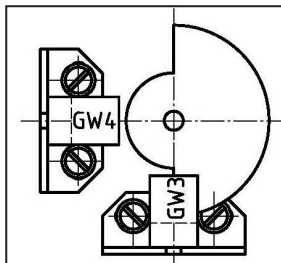
switching process



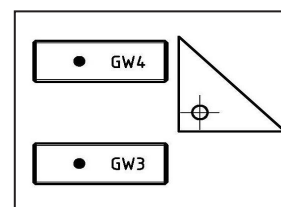
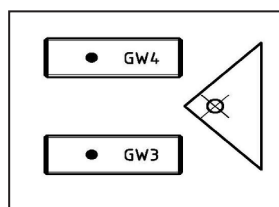
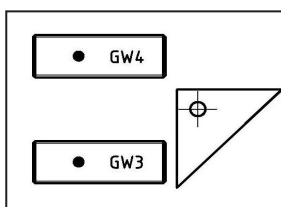
indication OPEN



**Switching function SFB for Slot sensors**



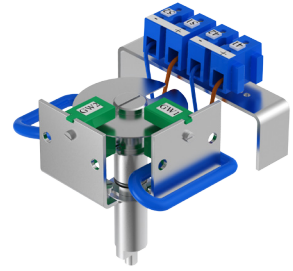
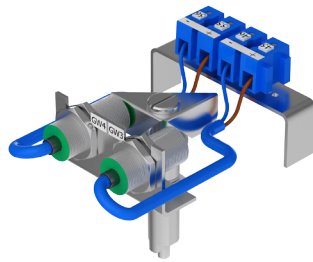
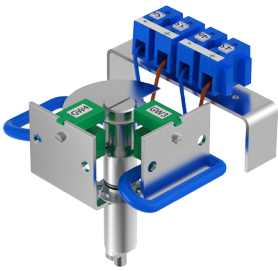
**Switching function SFB for Inductive sensors**



**LIMIT SWITCH BOX UNITS**

TYPE A110 / V215 / M215

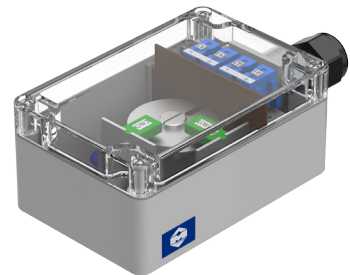
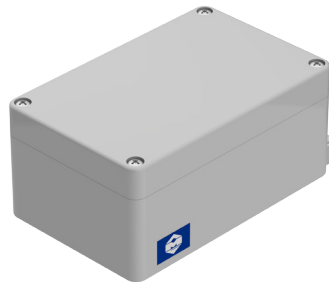
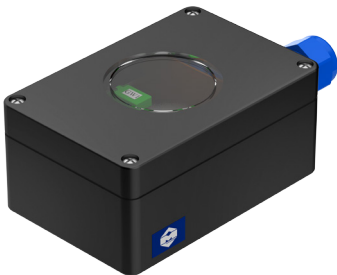
VARIANTS EXAMPLES OF AMG-LIMIT SWITCH BOX



V215

A110

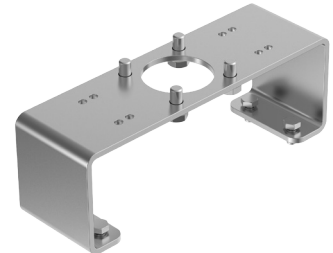
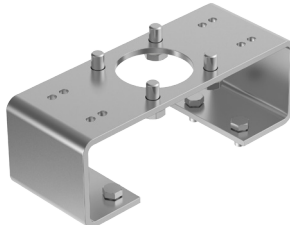
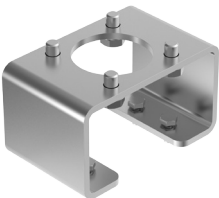
M215



MK 05 \*

MK 07-43

MK 45-50



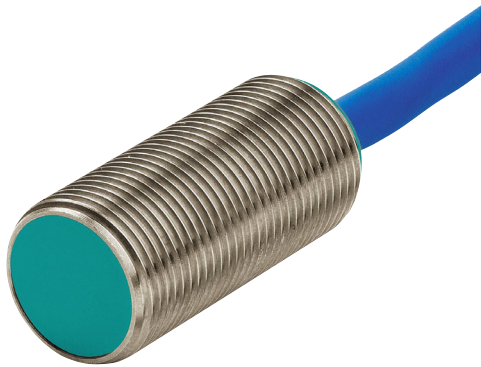
\* MK . mounting kit

## LIMIT SWITCH BOX UNITS

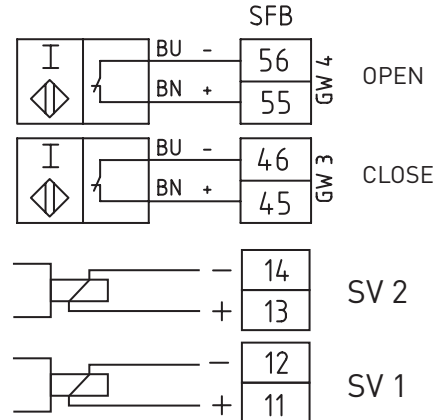
TYPE A110 / V215 / M215

### INDUCTIVE SENSOR

#### CYLINDRICAL INDUCTIVE SENSOR NAMUR



#### WIRING DIAGRAM



#### ORDER CODE

Inductive Sensor (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
<b>N1</b>	<b>AZ</b>	<b>V</b>	<b>07</b>	<b>B</b>	<b>20E</b>	<b>00</b>	<b>090</b>
N1=NJ2-11-N-G	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
N2=NJ4-12GK-N	AZ (Open/Close)	M (Macrolon)	05 (05)		20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
N3=NCB2-1 2GM35-NO	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	180 (Rotation angle 180°)
N4=NJ2-12GK-N	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
N5=NJ2-12GK-SN	FV (variable)					24 (2x M12x1,5)	
N6=NJ5-18GM-N							

By housing selection M **no ATEX approval**

By housing selection A no possibility for insertion-screw-connection

Selection FV is only for actuators with stroke limitation (2 limit switches)

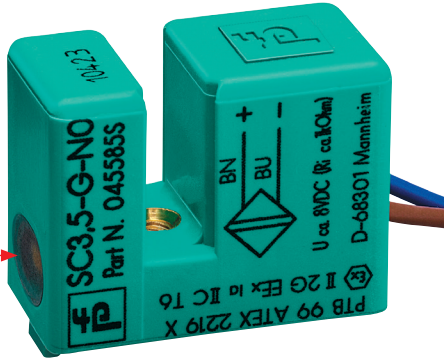
#### TECHNICAL DATA

Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs	Pepperl & Fuchs
Type:	N1, N2, N4, N6	N3	N5
Voltage:	8,2 V DC	8V DC	8V DC
Current consumption attenuated:	1 mA	1 mA	1 mA
Current consumption unattenuated:	3 mA	3 mA	3 mA
Temperature range:	-25°C to +100°C	-25°C to +100°C	-40°C to +100°C
SIL rating:	up to SIL 2	--	up to SIL 3

Technical data sheets can be found on the manufacturer's website!

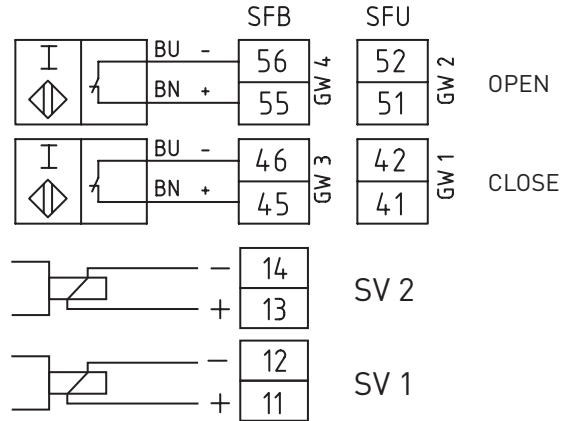
**INDUCTIVE SENSOR**

**SLOT INITIATOR NAMUR**



**Note:** The LED in the SC3.5 lights up in the unattuated state and goes off when the initiator is attenuated.

**WIRING DIAGRAM**



**ORDER CODE**

Slot initiator ( Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
S1	AZ	V	07	B	20E	00	090
S1=SJ3,5-G-N	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
S2=SC3,5-G-N0	AZ (Open/Close)	M (Macrolon)	05 (05)	U (SFU)	20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
S3=SJ3,5-SN	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	180 (Rotation angle 180°)
S4=SJ3,5-S1-N	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
S5=SJ5-G-N	FC (180°)					24 (2x M12x1,5)	
	FD (0°-Dosier-90°)						
	FM (0°-90°-180°)						
	FV (variable)						

By housing selection M **no ATEX approval**

By housing selection A no possibility for insertion-screw-connection

Selection FC is only for 180°actuators (2 limit switches)

Selection FD only for dosing actuators (3 limit switches)

Selection FM only for 180 ° actuators with centered center position (3 limit switches)

Selection FV only for actuators with stroke limitation (2 limit switches)

**TECHNICAL DATA**

Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs	Pepperl & Fuchs	Pepperl & Fuchs
Type:	S1, S3	S2	S4	S5
Voltage:	8,2 V DC	8,2 V DC	8,2 V DC	8,2 V DC
Current consumption attenuated:	1 mA	1 mA	1 mA	1 mA
Current consumption unattenuated:	3 mA	3 mA	3 mA	3 mA
Temperature range:	-25°C to +100°C	-25°C to +100°C	-50°C to +100°C	-25°C to +100°C
Switching status display:	-	LED yellow (SC3,5)	-	-
SIL rating:	-	up to to SIL 2	up to SIL 3	up to SIL 3

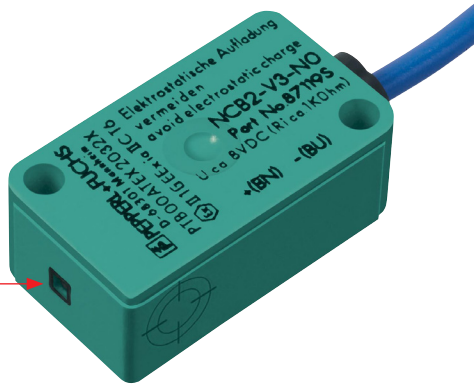
**Technical data sheets can be found on the manufacturer's website!**

## LIMIT SWITCH BOX UNITS

TYP A110 / V215 / M215

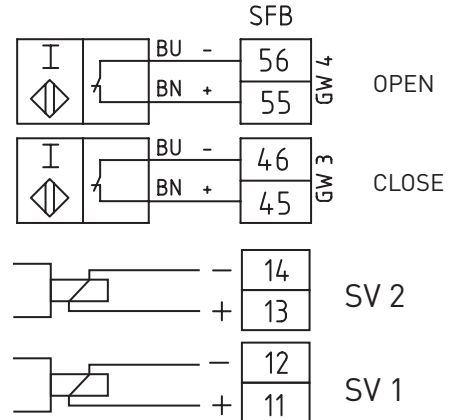
### INDUCTIVE SENSOR

#### CUBE-SHAPED INDUCTIVE SENSOR NAMUR



Note: The LED in the NCB2 lights up in the unattuated state and goes off when the initiator is attenuated.

#### WIRING DIAGRAM



#### ORDER CODE

Cube-shaped (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
Q1	AZ	V	07	B	20E	00	090
Q1=NCB2-V3-NO	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
Q2=NJ2-V3-N	AZ (Open/Close)	M (Macrolon)	05 (05)		20E (Insertion)	20 (M20x1,5)	
	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	
	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
						24 (2x M12x1,5)	

By housing selection M **no ATEX approval**

By housing selection A there is no possibility for insertion-screw-connection

#### TECHNICAL DATA

Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs
Type:	Q1	Q2
Voltage:	8,2 V DC	8,2 V DC
Current consumption attenuated:	1 mA	1 mA
Current consumption unattenuated:	3 mA	3 mA
Temperature range:	-25°C to +100°C	-25°C to +100°C
Switching status display:	LED yellow	--
SIL rating:	up to SIL 2	up to SIL 2

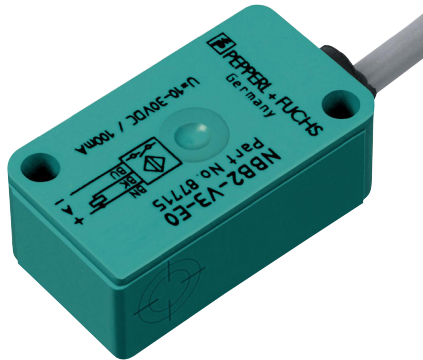
Technical data sheets can be found on the manufacturer's website!

## LIMIT SWITCH BOX UNITS

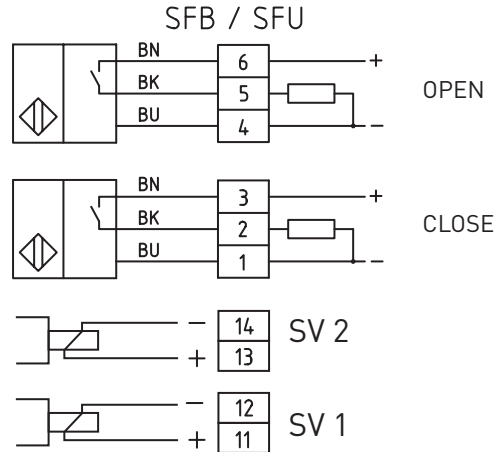
TYPE A110 / V215 / M215

### INDUKTIVER SENSOR

#### INDUCTIVE SENSOR 3-WIRE DC



#### WIRING DIAGRAM



#### ORDER CODE

INDUCTIVE INITIATOR 3-WIRE (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
<b>C1</b>	<b>AZ</b>	<b>V</b>	<b>07</b>	<b>B</b>	<b>20E</b>	<b>00</b>	<b>090</b>
QD1 = NBB2-V3-E2	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
	AZ (Open/Close)	M (Macrolon)	05 (05)	U (SFU)	20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	180 (Rotation angle 180°)
	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
	FC (180°)					24 (2x M12x1,5)	
	FV (variable)						

Switch type has **no ATEX approval**

Selection A, no insertion-screw-connection possible

Selection FC only for 180 ° actuators (2 limit switches)

Selection FV only for actuators with stroke limitation (2 limit switches)

#### TECHNICAL DATA

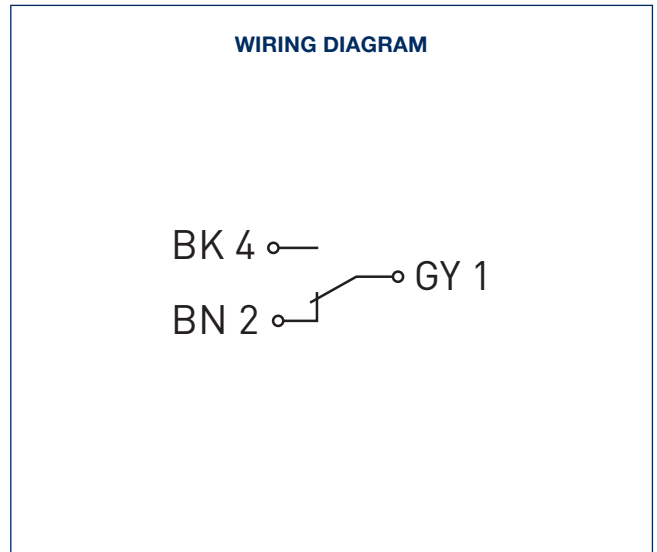
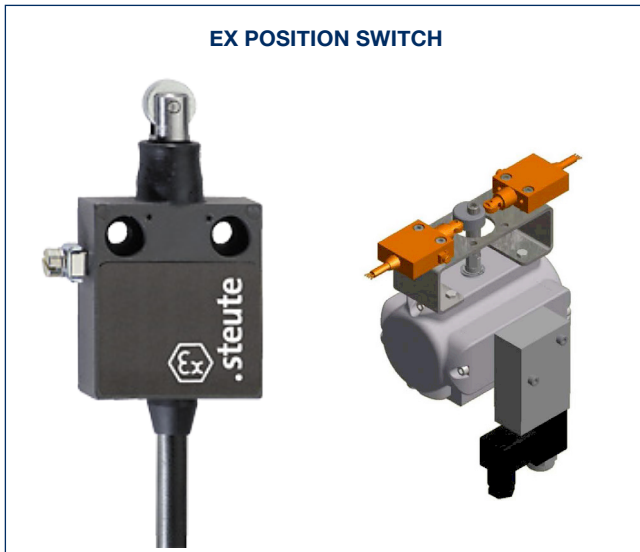
Manufacturer:	Pepperl & Fuchs
Type:	QD1
Voltage:	10...30 V DC
Operational current:	0...100 mA
Temperature range:	-25°C to +70°C
Switching status display:	LED yellow

Technical data sheets can be found on the manufacturer's website!

## LIMIT SWITCH BOX UNITS

TYPE A110 / V215 / M215

INDUKTIVER SENSOR



### ORDER CODE

Ex Position switch ( Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
M1	AZ	A	07	B	00	00	090
D1= Ex 12 WR-1M	00 (without)	A-Aluminium Pressure die-casting	05 (05)	B (SFB)	00 (without)	00 (without)	090 (Rotation angle 90°)
D2 = Ex 12 WR-3M	AZ (Open/Close)		07 (07-43)				180 (Rotation angle 180°)
	A1 (1x Open)		45 (45-50)				
	Z1 (1x Close)						
	FC (180°)						
	FV (variable)						

Switch type has **no ATEX approval**

Selection FC only for 180 ° actuators (2 limit switches)

Selection FV only for actuators with stroke limitation (2 limit switches)

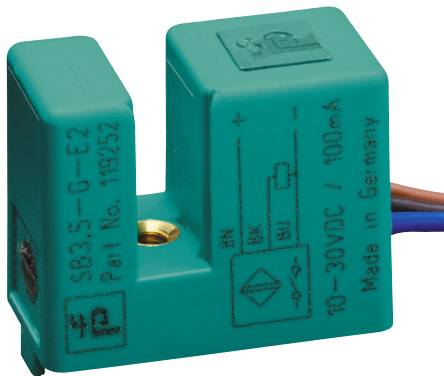
### TECHNICAL DATA

Manufacturer:	Steute
Type:	D1, D2
Connection type:	Connecting lead H05VV-F, 4x0,75mm <sup>2</sup>
U <sub>i</sub>	250V
I <sub>the</sub>	5A
I <sub>e</sub> /U <sub>e</sub>	5A/250 VAC; 0,16 A/230 VDC
Short-circuit protection:	5A gG/gN-Fuse
Temperature range:	-20°C to +60°C

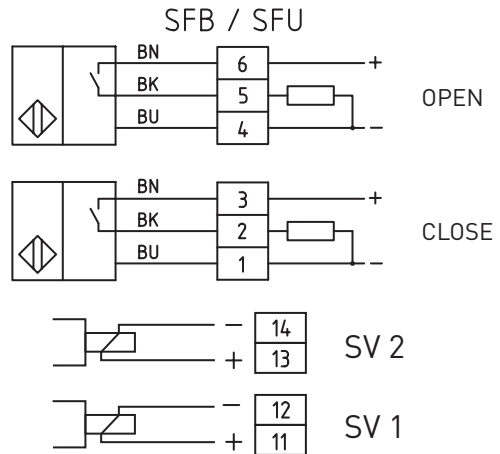
Technical data sheets can be found on the manufacturer's website!

**INDUCTIVE SENSOR**

**SLOT INITIATOR 3-WIRE**



**WIRING DIAGRAM**



**ORDER CODE**

Slot initiator 3-wire (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
<b>C1</b>	<b>AZ</b>	<b>V</b>	<b>07</b>	<b>B</b>	<b>20E</b>	<b>00</b>	<b>090</b>
C1=SB3,5-G-E2	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
	AZ (Open/Close)	M (Macrolon)	05 (05)	U (SFU)	20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	180 (Rotation angle 180°)
	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
	FC (180°)					24 (2x M12x1,5)	
	FD (0°-Dossier-90°)						
	FM (0°-90°-180°)						
	FV (variable)						

Switch type has **no ATEX approval**

By housing selection A no possibility for insertion-screw-connection

Selection FC is only for 180°actuators (2 limit switches)

Selection FD only for dosing actuators (3 limit switches)

Selection FM only for 180 ° actuators with centered center position (3 limit switches)

Selection FV only for actuators with stroke limitation (2 limit switches)

**TECHNICAL DATA**

Manufacturer: Pepperl & Fuchs

Type: C1

Voltage: 10 V to 30 V DC

Operational current: 100 mA max

Temperature range: -25°C to +70°C

Switching status display: LED yellow

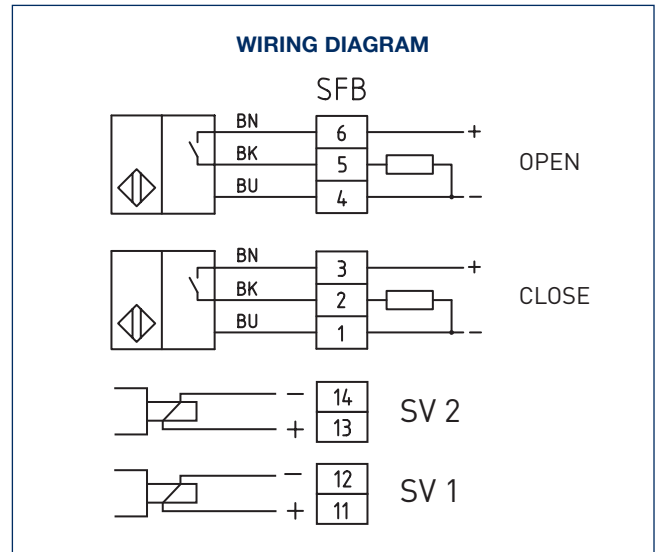
**Technical data sheets can be found on the manufacturer's website!**



## LIMIT SWITCH BOX UNITS

TYPE A110 / V215 / M215

### INDUCTIVE SENSOR



### ORDER CODE

Inductive sensor 3-wire ( Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
E1	AZ	V	07	B	20E	00	090
E1=NCB2-12GM40-E2-3G-3D	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
E2 = NBN4-12GM40-E2	AZ (Open/Close)	M (Macrolon)	05 (05)		20E (Insertion)	20 (M20x1,5)	
E3 = IG5221	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	
E4 = IG5399	Z1 (1x Close)	N (M221)	45 (45-50)			12 (M12x1,5)	
E5 = IE5099	FV (variable)					24 (2x M12x1,5)	

By housing selection A and V is AMG-Manufacturer declaration possible

By housing selection A no possibility for insertion-screw-connection

Selection FV only for actuators with stroke limitation (2 limit switches)

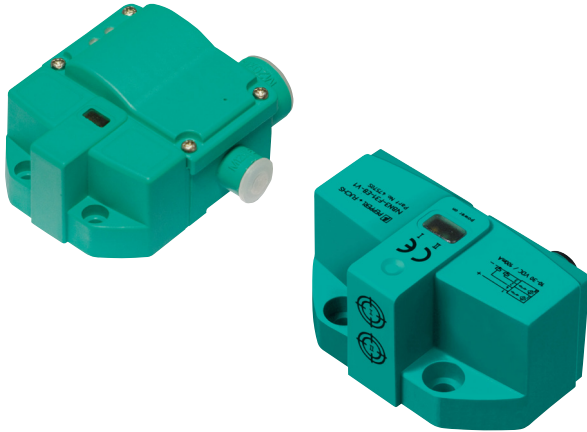
### TECHNICAL DATA

Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs	IFM	IFM	IFM
Type:	E1	E2	E3	E4	E5
Voltage:	10 V to 30 V DC	10 V to 30 V DC	18...36 V DC	10...36 V DC	10...36 V DC
Operational current:	200 mA max.	100 mA max.	125 mA max.	250 mA max.	200 mA max.
Temperature range:	-25°C to +70°C	-25°C to +70°C	-25°C to +80°C	-25°C to +80°C	-25°C to +80°C
Switching status display:	LED yellow	LED yellow	LED yellow	LED yellow	LED yellow
	ATEX	no ATEX	no ATEX	no ATEX	no ATEX

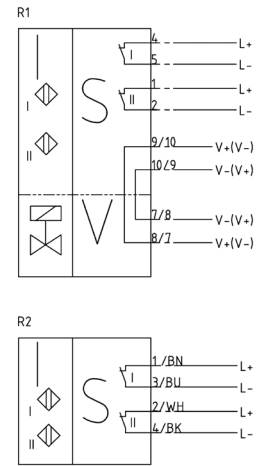
Technical data sheets can be found on the manufacturer's website!

**INDUCTIVE SENSOR**

**DUAL SENSOR NAMUR**



**WIRING DIAGRAM**



**ORDER CODE**

Dual sensor Direct mounting (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Type of Actuator Rotation angle
<b>Q1</b>	<b>AZ</b>	<b>P</b>	<b>07</b>	<b>B</b>	<b>00</b>	<b>090</b>
R1 = NCN3-F31K-N4-K	00 (without)	P (PBT)	00(without)	B (SFB)	00(without)	090 (Rotation angle 90°)
R2 = NCN3-F31-N4-V1	AZ (Open/Close)		05 (05)			
			07 (07-43)			
			45 (45-50)			

**TECHNICAL DATA**

	<b>R1</b>	<b>R2</b>
Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs
Voltage:	8 V NC	8 V NC
Current consumption attenuated:	1 mA	1 mA
Current consumption unattenuated:	3 mA	3 mA
Temperature range:	-25°C to +100°C	-25°C to +100°C
Switching status display:	LED yellow	LED yellow
SIL rating:	up to SIL 2	up to SIL 2
	ATEX	ATEX
Connection	S (Plug M12x1 4-pin)	M20 (M20x1,5 / M12x1,5)

Technical data sheets can be found on the manufacturer's website!

## LIMIT SWITCH BOX UNITS

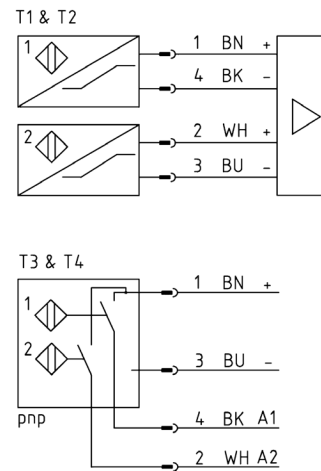
TYPE A110 / V215 / M215

### INDUCTIVE SENSOR

#### DUAL SENSOR NAMUR



#### WIRING DIAGRAM



### ORDER CODE

Dual sensor Direct mounting (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Type of Actuator Rotation angle
<b>Q1</b>	<b>AZ</b>	<b>P</b>	<b>07</b>	<b>B</b>	<b>00</b>	<b>090</b>
T1 = NI4-DSU35-2Y1X2-H1140	00 (without)	P (PP-GF30VO)	00 (without)	B (SFB)	00 (without)	090 (Rotation angle 90°)
T2 = NI4-DSU35-2Y1X2	AZ (Open/Close)		05 (05)			
T3 = NI4-DSU35-2AP4X2-H1141			07 (07-43)			
T4 = NI4-DSU35-2AP4X2			45 (45-50)			

#### TECHNICAL DATA

Manufacturer:

#### T1

Turck

#### T2

Turck

#### T3,T4

Turck

Voltage:

8,2 V DC

8,2 V DC

DC 4-Draht, 10...65 V DC

Current consumption attenuated:

1,2 mA

1,2 mA

200 mA

Current consumption unattenuated:

2,1 mA

2,1 mA

--

Temperature range:

-25°C to +70°C

-25°C to +70°C

-25°C to +70°C

Switching status display:

2x LED yellow/red

2x LED yellow/red

2x LED yellow/red

SIL rating:

up to SIL 3

up to SIL 3

--

ATEX

ATEX

no ATEX

Connection

S (Plug M12x1 4-pin)

K (cable) 5,2mm 2m

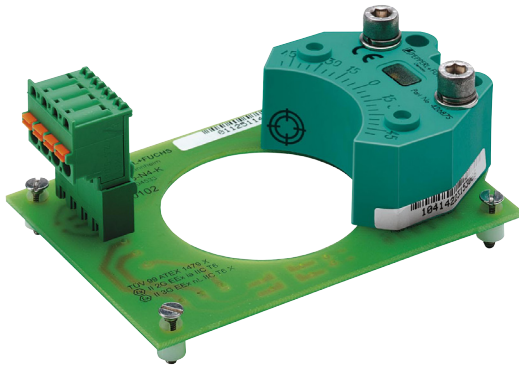
Technical data sheets can be found on the manufacturer's website!

## LIMIT SWITCH BOX UNITS

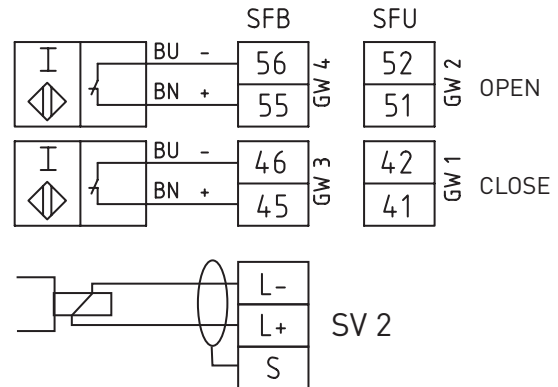
TYPE A110 / V215 / M215

### INDUCTIVE SENSOR

BOARD



WIRING DIAGRAM



### ORDER CODE

PL (Board Version) (Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
P1	AZ	V	07	BF	20E	00	090
P1= PL2-F25-N4-K	AZ (Open/Close)	A (Aluminium)	00(without)	BF (SFB fest)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
P2= PL3-F25-N4-K		M (Macrolon)	05 (05)	UF (SFU fest)	20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
		V (Vestamid)	07 (07-43)	BV (SFB variabel)		16 (M16x1,5)	180 (Rotation angle 180°)
			45 (45-50)	UV (SFU variabel)		12 (M12x1,5)	

By housing selection M no ATEX approval

By housing selection A no possibility for insertion-screw-connection

By selection P2 it is possible for add. screwing 20, 16, 12

### TECHNICAL DATA

Manufacturer:	Pepperl & Fuchs	Pepperl & Fuchs
Type:	P1	P2
Voltage:	8,2 V DC	8,2 V DC
Current consumption attenuated:	1 mA	1 mA
Current consumption unattenuated:	3 mA	3 mA
Temperature range:	-25°C to +100°C	-25°C to +100°C
Switching status display:	LED yellow	LED yellow
Valve status indication:	-	LED yellow (disengageable)
SIL rating:	-	-

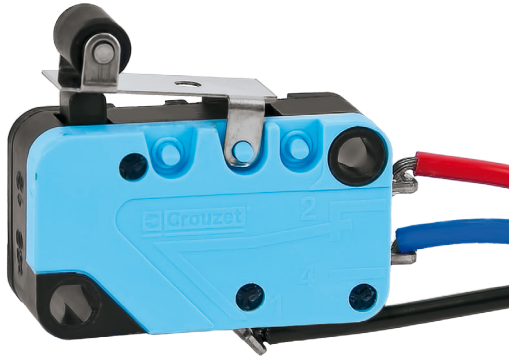
Technical data sheets can be found on the manufacturer's website!

## LIMIT SWITCH BOX UNITS

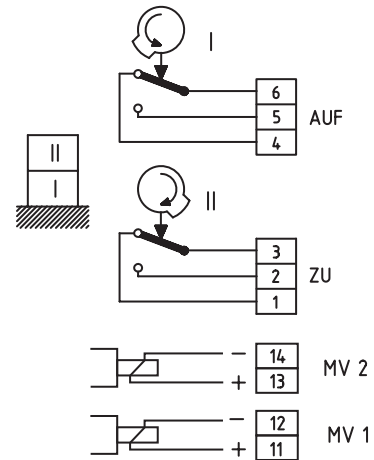
TYPE A110 / V215 / M215

### MICROSWITCH

MICROSWITCH V3



WIRING DIAGRAM



### ORDER CODE

Microswitch ( Example for ordering)

Inductive sensor Definition	Number / Function	Housing Material	Mounting Kit	Switch Function	Fitting	Additional Screwing for Solenoid valve	Type of Actuator Rotation angle
<b>M1</b>	<b>AZ</b>	<b>V</b>	<b>07</b>	<b>B</b>	<b>20E</b>	<b>00</b>	<b>090</b>
M1=Mikro V3 Kontakte vergoldet	00 (without)	A (Aluminium)	00(without)	B (SFB)	20V (Screwing)	00 (without add. screwing)	090 (Rotation angle 90°)
	AZ (Open/Close)	M (Macrolon)	05 (05)		20E (Insertion)	20 (M20x1,5)	135 (Rotation angle 135°)
	A1 (1x Open)	V (Vestamid)	07 (07-43)			16 (M16x1,5)	180 (Rotation angle 180°)
	Z1 (1x Close)		45 (45-50)			12 (M12x1,5)	
	FC (180°)					24 (2x M12x1,5)	
	FV (variable)						

Switch type has **no ATEX approval**

By housing selection A no possibility for insertion-screw-connection  
Infinitely variable to 180°

### TECHNICAL DATA

Manufacturer: Crouzet  
 Type: V3  
 Voltage: 250 V  
 Capacity: 16 A max.  
 Temperature range: -25°C to +125°C

Technical data sheets can be found on the manufacturer's website!

# LOCATIONS



**AMG - PESCH GmbH**  
Adam-Riese-Str. 1  
D-50996 Köln  
Tel +49 (0)2236 · 89 16 0  
Fax +49 (0)2236 · 89 16 56  
info@amg-pesch.com  
www.amg-pesch.com



**Subsidiary Zwenkau**

Baumeisterallee 33  
D-04442 Zwenkau  
Tel +49 (0)34203 · 471 - 114  
Fax +49 (0)34203 · 471 - 115  
info@amg-pesch.com  
www.amg-pesch.com

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