

**Safety in System
Protection for man and machine**

EXPLOSION PROTECTION PRODUCT OVERVIEW



SCHMERSAL
THE DNA OF SAFETY

INTRODUCTION



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Managing Directors of the Schmersal Group

New solutions for explosion protection and for improving production efficiency and machine safety

Safety in system – Protection for man and machine

Often, it is unavoidable that people have to intervene with the workings of a machine. When this is done, the safety of the operator is imperative. This demands the responsibility of the machine operator, which is also required by the world's standards and guidelines for machine safety.

For many years, the Schmersal Group has been committed to explosion protection and safety at work with its products and solutions, and today offers the industry the world's largest range of safety switchgear and systems for the protection of man and machine, also for potentially explosive atmospheres.

Under the guiding principle "Safety with system – protection for man and machine" we develop and produce products that carry the system concept and can be optimally integrated into the work processes. Because we are convinced that safety does not contradict higher productivity.

In our fields of activity we have a leading position due to our expertise, our innovative power and our comprehensive range of products. With this we follow a central theme: Together with you, we want to make the world safer.

Talk to us – we look forward to working with you.

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Web shop



Already familiar with our new web shop?
Here you will find all details and data
on our products which you can order
directly online:

products.schmersal.com

SOLENOID INTERLOCKS

EX-AZM 161

SAFETY



- Ex II 3D
Ex tc IIIC T80°C Dc
- IP67

- Thermoplastic enclosure
- Metal protective enclosure
- 130 mm x 114 mm x 30 mm
- Holding force $F_{zh} = 2,000 \text{ N} / F_{max} = 2,600 \text{ N}$
- Interlock with protection against incorrect locking
- Manual release
- 4 cable entries M16 x 1.5

- Manufacturer's assessment

**ZONE
22**



EX-AZM 161I

SAFETY



- Ex II 3D
Ex tc IIIC T80°C Dc
- IP67

- Individual coding
- Thermoplastic enclosure
- Metal protective enclosure
- 130 mm x 114 mm x 30 mm
- Holding force $F_{zh} = 2,000 \text{ N} / F_{max} = 2,600 \text{ N}$
- Interlock with protection against incorrect locking
- Manual release
- 4 cable entries M16 x 1.5

- Manufacturer's assessment

**ZONE
22**



EX-AZM 170

SAFETY



- Ex II 3G
Ex nC IIB T5 Gc
- Ex II 3D
Ex tc IIIC T80°C Dc
- IP67

- Thermoplastic enclosure
- Metal protective enclosure
- 90 mm x 84 mm x 30 mm
- Holding force $F_{zh} = 1,000 \text{ N} / F_{max} = 1,300 \text{ N}$
- Interlock with protection against incorrect locking
- Manual release
- 1 cable entry M20 x 1.5

- Manufacturer's assessment

**ZONE
2/22**



EX-AZM 170I

SAFETY



- Ex II 3G
Ex nC IIB T5 Gc
- Ex II 3D
Ex tc IIIC T80°C Dc
- IP67

- Individual coding
- Thermoplastic enclosure
- Metal protective enclosure
- 90 mm x 84 mm x 30 mm
- Holding force $F_{zh} = 1,000 \text{ N} / F_{max} = 1,300 \text{ N}$
- Interlock with protection against incorrect locking
- Manual release
- 1 cable entry M20 x 1.5

- Manufacturer's assessment

**ZONE
2/22**



Detailed information about the products can be found at products.schmersal.com.

EX-AZM 300-2D

NEW

SAFETY



- Ex II 2D
Ex tb IIIB T95°C Db
- IP66, IP67, IP69

- Thermoplastic enclosure
- 130 mm x 100 mm x 46.5 mm
- Holding force $F_{zh} = 1,150 \text{ N} / F_{max} = 1,500 \text{ N}$
- Suitable for mounting to profile systems
- 3 different directions of actuation
- 3 LED's to indicate operating modes
- RFID technology for needs-based protection against tampering
- Connector plug M12, 8-pole

- Certificates:
ATEX, IECEx

ZONE
21/22



EX-AZM 300

SAFETY



- Ex II 3G
Ex ec IIB T5 Gc
- Ex II 3D
Ex tc IIIB T95°C Dc
- IP66, IP67, IP69

- Thermoplastic enclosure
- 130 mm x 100 mm x 46.5 mm
- Holding force $F_{zh} = 1,150 \text{ N} / F_{max} = 1,500 \text{ N}$
- Suitable for mounting to profile systems
- 3 different directions of actuation
- 3 LED's to indicate operating modes
- RFID technology for needs-based protection against tampering
- Connector plug M12, 8-pole

- Manufacturer's assessment

ZONE
2/22



EX-AZM 415

SAFETY



- Ex II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- 130 mm x 100 mm x 46.5 mm
- Holding force $F_{zh} = 3,500 \text{ N} / F_{max} = 4,550 \text{ N}$
- Interlock with protection against incorrect locking
- Adjustable ball latch to 400 N
- Problem-free opening of stressed doors by means of bell-crank system
- 2 cable entries M20 x 1.5

- Manufacturer's assessment

ZONE
22




SAFETY SWITCHES WITH SEPARATE ACTUATOR

EX-AZ16

SAFETY



-  II 3D
Ex tc IIIC T90°C Dc
- IP67

- Thermoplastic enclosure
- 52 mm x 90 mm x 30 mm
- High level of contact reliability with low voltages and currents
- Slotted holes for adjustment, circular holes for location
- 3 cable entries M16 x 1.5

- Manufacturer's assessment


ZONE
22



EX-AZ 3350

SAFETY



-  II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- 40.5 mm x 114 mm x 38 mm
- High level of contact reliability with low voltages and currents
- 1 cable entry M20 x 1.5

- Manufacturer's assessment

ZONE
22



SAFETY SWITCHES WITH SEPARATE ACTUATOR

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

AZ 16...Z

SAFETY



- Thermoplastic enclosure
- Universal coding
- 52 mm x 90 mm x 30 mm
- High level of contact reliability with low voltages and currents
- Slotted holes for adjustment, circular holes for location
- 3 cable entries M16 x 1.5
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



AZ 16ZI-M16

SAFETY



- Thermoplastic enclosure
- Individual coding
- 52 mm x 90 mm x 30 mm
- High level of contact reliability with low voltages and currents
- Slotted holes for adjustment, circular holes for location
- 3 cable entries M16 x 1.5
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

SAFETY SENSORS

EX-BNS40S

SAFETY



- II 3G
Ex ec nc IIC T6 Gc
- II 3D
Ex tc IIIC T80 °C Dc
- IP65, IP67, IP69

- Stainless steel enclosure
- 88 mm x 27 mm x 14.5 mm
- With coding
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Suitable for food processing industry
- Connecting cable suitable for the food-processing industry

- Manufacturer's assessment

ZONE
2/22



EX-BNS 120

SAFETY



- II 3G
Ex nc IIC T6 Gc
- II 3D
Ex tc IIIC T80°C Dc
- IP67

- Thermoplastic enclosure
- Ø M12
- Particularly large switching distance
- Insensitive to transverse misalignment
- No mechanical wear
- Suitable for the food industry only in conjunction with BP 15 SS

- Manufacturer's assessment

ZONE
2/22



EX-BNS 180

SAFETY



- II 3G
Ex nc IIC T6 Gc
- II 3D
Ex tc IIIC T80°C Dc
- IP67

- Thermoplastic enclosure
- Ø M18
- Particularly large switching distance
- Insensitive to transverse misalignment
- No mechanical wear
- Suitable for the food industry only in conjunction with BP 15 SS

- Manufacturer's assessment

ZONE
2/22



EX-BNS 250

SAFETY



- II 3G
Ex nc IIC T6 Gc
- II 3D
Ex tc IIIC T80°C Dc
- IP67

- Metal protective enclosure
- 33 mm x 25 mm x 13 mm
- With coding
- Small body
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear

- Manufacturer's assessment

ZONE
2/22



Detailed information about the products can be found at products.schmersal.com.

EX-BNS 33

SAFETY



- II 3G
Ex nC IIC T6 Gc
- II 3D
Ex tc IIIC T80°C Dc
- IP67

- Metal protective enclosure
- 88 mm x 25 mm x 13 mm
- With coding
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear

- Manufacturer's assessment

ZONE
2/22



EX-BNS 303

SAFETY



- II 3G
Ex nC IIC T6 Gc
- II 3D
Ex tc IIIC T80°C Dc
- IP67

- Thermoplastic enclosure
- Ø M30
- With coding
- Insensitive to transverse misalignment
- No mechanical wear
- Suitable for the food industry only in conjunction with BPS 303 SS

- Manufacturer's assessment

ZONE
2/22



EX-CSS 180

SAFETY



- II 3G
Ex ec IIC T6 Gc
- II 3D
Ex tc IIIC T70°C Dc
- IP65, IP67

- Thermoplastic enclosure
- Ø M18
- Contact-free, coded electronic system
- Misaligned actuation possible
- 2 short-circuit proof PNP safety outputs
- High repeat accuracy of the switching points

- Manufacturer's assessment

ZONE
2/22



EX-RSS16

SAFETY



- II 3G
Ex ec IIC T6 Gc
- II 3D
Ex tc IIIC T 90 °C Dc
- IP65, IP67

- Thermoplastic enclosure
- 52 mm x 91 mm x 30 mm without cable gland
- RFID technology for needs-based protection against tampering
- 3 different directions of actuation
- Door hinge with magnetic latching
- Suitable for series-wiring

- Manufacturer's assessment

ZONE
2/22



Detailed information about the products can be found at products.schmersal.com.

SAFETY SENSORS

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

BNS 120

SAFETY



- Thermoplastic enclosure
- Ø M12
- Particularly large switching distance
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



BNS 180

SAFETY



- Thermoplastic enclosure
- Ø M18 x 1
- Particularly large switching distance
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



BNS 250-11Z

SAFETY



- Thermoplastic enclosure
- 33 mm x 25 mm x 13 mm
- with coding
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



BNS 250-12Z-1287

SAFETY



- Thermoplastic enclosure
- 33 mm x 25 mm x 13 mm
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

BNS 260**SAFETY**

- Thermoplastic enclosure
- 26 mm x 36 mm x 13 mm
- With coding
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**BNS 260-ST****SAFETY**

- Thermoplastic enclosure
- 26 mm x 36 mm x 13 mm
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Connector plug 8 mm, 6-pin, latching interlocking
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**BNS 303****SAFETY**

- Thermoplastic enclosure
- Ø M30
- With coding
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**BNS 33****SAFETY**

- Thermoplastic enclosure
- 88 mm x 25 mm x 13 mm
- With coding
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21

Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

BNS 36**SAFETY**

- Thermoplastic enclosure
- 88 mm x 25 mm x 13 mm
- With coding
- Insensitive to transverse misalignment
- No mechanical wear
- Insensitive to soiling
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**BNS 40S****SAFETY**

- Stainless steel enclosure
- 88 mm x 27 mm x 14.5 mm
- With coding
- Concealed mounting possible
- Insensitive to transverse misalignment
- No mechanical wear
- Suitable for food processing industry
- Connecting cable suitable for the food processing industry
- Degree of protection IP69

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21

Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

MAGNETIC REED SWITCHES

EX-BN 20



- Ex II 3G
Ex nC IIC T5 Gc
- Ex II 3D
Ex tc IIIC T90°C Dc
- IP67
- Aluminium enclosure
- 104 mm x 52 mm x 47 mm
- Actuating distance up to 50 mm depending on version and actuating magnet
- Non-contact principle
- Screw terminals

- Manufacturer's assessment

ZONE
2/22



Simple electrical apparatus for intrinsic safety

BN 20



- Aluminium enclosure
- 104 mm x 52 mm x 47 mm
- Actuating distance up to 50 mm depending on version and actuating magnet
- Non-contact principle
- Screw terminals
- Degree of protection IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



BN 325



- Thermoplastic enclosure
- 85 mm x 26 mm x 24 mm
- Non-contact principle
- 1 reed contact
- Flat plug-in connector
- Degree of protection IP40

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



BN 65



- Thermoplastic enclosure
- Ø 13 mm
- Actuating distance up to 60 mm depending on version and actuating magnet
- Non-contact principle
- Screw terminals
- With central mounting

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

MICRO SWITCHES

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

M 660-11-2-Y



- Rubber enclosure (Perbunan)
- Change-over contact with single break
- Snap action with self-cleaning contact
- Degree of protection IP65

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

SAFETY LIGHT GRIDS / LIGHT CURTAINS

EX-SLC440

NEW

SAFETY



- II 2G
Ex db op is IIA T6 Gb
- II 2D
Ex op is tb IIIC T80°C Db
- IP66

- Suitable for applications up to cat. 4/PL e
- Resolution 30 mm and 14 mm
- Range: up to 20 m
- Protective mode
- EDM contactor control
- Beam coding

- Certificates: ATEX

ZONE
1/21



EX-SLG440

NEW

SAFETY



- II 2G
Ex db op is IIA T6 Gb
- II 2D
Ex op is tb IIIC T80°C Db
- IP66

- Suitable for applications up to cat. 4/PL e
- Range: up to 20 m
- Protective mode
- EDM contactor control
- Beam coding

- Certificates: ATEX

ZONE
1/21



POSITION SWITCHES

EX-I-BS655

SAFETY



- II 2G
Ex ia IIC T6 Gb
- II 2D
Ex ia IIIC T85°C Db
Ex tb IIIC T85°C Db
- IP66, IP67

- Metal enclosure
- Large range of actuating elements
- Lever angle adjustable in 10° steps
- Switching point setting
- 2 cable entries M25 x 1.5

- Certificates:
ATEX, IECEx, CCC-Ex

ZONE
1/21



EX-BS655

NEW

SAFETY



- II 2G
Ex db eb IIC T6 Gb
Ex ia IIC T6 Gb
- II 2D
Ex tb IIIC T85°C Db
Ex ia IIIC T85°C Db
- IP66, IP67

- Metal enclosure
- Large range of actuating elements
- Lever angle adjustable in 10° steps
- Switching point setting
- 2 cable entries M25 x 1.5
- Can be used without intrinsically safety barrier

- Certificates:
ATEX, IECEx, CCC-Ex

ZONE
1/21



EX-BS655-...-DS-2D/...-DN-2D

SAFETY



- II 2D
Ex tb IIIC T80°C Db
- IP66, IP67

- Metal enclosure
- Large range of actuating elements
- Lever angle adjustable in 10° steps
- Switching point setting
- Variants with Dupline for dust atmospheres
- 2 cable entries M25 x 1.5

- Certificates:
ATEX, IECEx, CCC-Ex

ZONE
21



EX-T335



- II 2G
Ex db eb IIC T6 Gb
- II 2D
Ex tb IIIC T80°C Db
- IP65

- Metal enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- Cable entry M20 x 1.5

- Certificates:
ATEX, IECEx, INMETRO, CCC-Ex

ZONE
1/21



Detailed information about the products can be found at products.schmersal.com.

EX-M 330



- II 3D
Ex tc IIIC T100°C Dc
- IP65

- 1 cable entry M20 x 1.5

- Manufacturer's assessment

ZONE
22



Position switches with safety function

EX-Z/T 235

SAFETY



- II 3G
Ex nC IIC T5 Gc
- II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- Mounting details to EN 50047
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Large range of actuating elements
- Actuator heads can be repositioned by 4 x 90°
- 1 cable entry M20 x 1.5

- Manufacturer's assessment

ZONE
2/22



EX-Z/T 335



- II 3G
Ex nC IIC T5 Gc
- II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- 1 cable entry M20 x 1.5

- Manufacturer's assessment

ZONE
2/22



EX-Z/T 355



- II 3G
Ex nC IIC T5 Gc
- II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- 3 cable entries M20 x 1.5

- Manufacturer's assessment

ZONE
2/22



Detailed information about the products can be found at products.schmersal.com.

POSITION SWITCHES

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

Z/T 235



- Metal enclosure
- Mounting details to EN 50047
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- Degree of protection IP65, IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Z/T 236



- Thermoplastic enclosure
- Mounting details to EN 50047
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- Degree of protection IP65, IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Z/T 335



- Metal enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- Degree of protection IP65, IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Z/T 355



- Metal enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Switching points to EN 50041
- Actuator heads can be repositioned by 4 x 90°
- Degree of protection IP65, IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

Z/T 336**SAFETY**

- Thermoplastic enclosure
- Mounting details to EN 50041
- Large range of actuating elements
- Good resistance to oil and petroleum spirit
- Actuator heads can be repositioned by 4 x 90°
- Degree of protection IP65, IP67

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**T./M. 441-11Y**

- Metal enclosure
- 106 mm x 99 mm x 63 mm
- Suitable for use in harsh environments
- Degree of protection IP65

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21**T./M. 470 Y-1276-2**

- Metal enclosure
- 130 mm x 194 mm x 64 mm
- 4 cable entries M20 x 1.5
- Actuator head can be repositioned in steps 4 x 90°
- Degree of protection IP65

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21

Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

SAFETY SWITCHES FOR HINGED GUARDS

EX-TV.S 335

SAFETY



- II 3D
Ex tc IIIC T90°C Dc
- IP67

- Metal enclosure
- 40.5 mm x 107 mm x 65.3 mm
- Actuator shaft can be turned 360°
- Good resistance to oil and petroleum spirit
- Actuator head can be repositioned in steps 4 x 90°

- Manufacturer's assessment

ZONE
22



Simple electrical apparatus for intrinsic safety

TESF

SAFETY



- Metal enclosure
- 141 mm x 115 mm x 21.5 mm
- For left or right hinged doors
- Good resistance to oil and petroleum spirit
- Easy installation, suitable for all conventional profile systems
- Degree of protection IP65

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



TESK

SAFETY



- Metal enclosure
- 78 mm x 116 mm x 20 mm (Standard hinge)
98 mm x 116 mm x 20 mm (Long hinge)
- Easy installation, suitable for all conventional profile systems
- Freely adjustable switching angles
- Larger rotating angle up to 270°
- Degree of protection IP65

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



TESZ

SAFETY



- Thermoplastic enclosure
- 111.5 mm x 92 mm x 36 mm
- Double-insulated
- Good resistance to oil and petroleum spirit
- Easy installation, especially on 40 mm profiles
- Degree of protection IP65

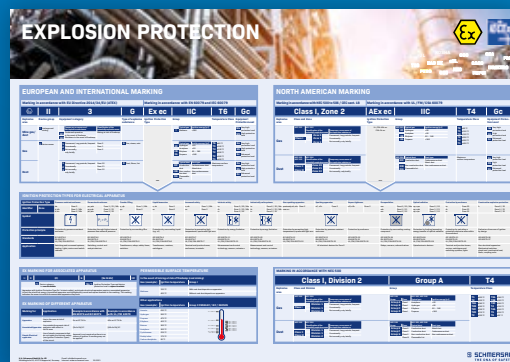
- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Detailed information about the products can be found at products.schmersal.com.















EXPLOSION PROTECTION A COMPACT OVERVIEW



DETAILED INFORMATION
CAN BE FOUND ON OUR SEPARATE POSTER
"EXPLOSION PROTECTION"

BELT ALIGNMENT/SLACK-WIRE/LEVEL SWITCHES

Belt alignment switches

EX-T/M 441			
	<ul style="list-style-type: none"> ■  II 2D Ex tb IIIC T90°C Db ■ IP65, IP66, IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ 106 mm x 99 mm x 63 mm ■ Suitable for use in harsh environments ■ Cable entry M20 x 1.5 	<ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, INMETRO <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">ZONE 21</div>  </div>
EX-I-BS655			
	<ul style="list-style-type: none"> ■  II 2G Ex ia IIC T6 Gb ■  II 2D Ex ia IIIC T85°C Db Ex tb IIIC T85°C Db ■ IP66, IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ Large range of actuating elements ■ Lever angle adjustable in 10° steps ■ Switching point setting ■ 2 cable entries M25 x 1.5 	<div style="text-align: right;">SAFETY</div> <ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, CCC-Ex <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">ZONE 1/21</div>  </div>
EX-BS655			
	<ul style="list-style-type: none"> ■  II 2G Ex db eb IIC T6 Gb Ex ia IIC T6 Gb ■  II 2D Ex tb IIIC T85°C Db Ex ia IIIC T85°C Db ■ IP66, IP67 	<div style="text-align: right;">NEW</div> <ul style="list-style-type: none"> ■ Metal enclosure ■ Large range of actuating elements ■ Lever angle adjustable in 10° steps ■ Switching point setting ■ 2 cable entries M25 x 1.5 ■ Can be used without intrinsically safety barrier 	<div style="text-align: right;">SAFETY</div> <ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, CCC-Ex <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">ZONE 1/21</div>  </div>
EX-BS655-...-DS-2D/...-DN-2D			
	<ul style="list-style-type: none"> ■  II 2D Ex tb IIIC T80°C Db ■ IP66, IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ Large range of actuating elements ■ Lever angle adjustable in 10° steps ■ Switching point setting ■ Variants with Dupline for dust atmospheres ■ 2 cable entries M25 x 1.5 	<div style="text-align: right;">SAFETY</div> <ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, CCC-Ex <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">ZONE 21</div>  </div>

Detailed information about the products can be found at products.schmersal.com.

Slack-wire switch

EX-T/M 441



- Ⓢ II 2D
Ex tb IIIC T90°C Db
- IP65, IP66, IP67

- Metal enclosure
- Suitable for heavy duty

- Certificates:
ATEX, IECEx, INMETRO

ZONE
21



Level switch

EX-BS655

NEW

SAFETY



- Ⓢ II 2G
Ex db eb IIC T6 Gb
Ex ia IIC T6 Gb
- Ⓢ II 2D
Ex tb IIIC T85°C Db
Ex ia IIIC T85°C Db
- IP66, IP67















- Metal enclosure
- Large range of actuating elements
- Lever angle adjustable in 10° steps
- Switching point setting
- Can be used without intrinsically safety barrier

- Certificates:
ATEX, IECEx, CCC-Ex

ZONE
1/21



PULL-WIRE EMERGENCY STOP SWITCHES

EX-I-ZQ900 NEW SAFETY			
	<ul style="list-style-type: none"> ■  II 2G Ex ib IIC T6 Gb ■  II 2D Ex ib IIIC T100°C Db Ex tb IIIC T100°C Db ■ IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ One-side operation / wire length up to 75 m ■ Wire pull and breakage detection ■ Reset pushbutton ■ Position indication ■ Twisting of towing eye not possible ■ External watertight collar ■ 3 cable entries M20 x 1.5 	<ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, INMETRO <div style="border: 1px solid black; background-color: #4a7ebb; color: white; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;"> ZONE 1/21 </div>
EX-ZQ900-3D SAFETY			
	<ul style="list-style-type: none"> ■  II 3D Ex tc IIIC T100°C Dc ■ IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ One-side operation / wire length up to 75 m ■ Wire pull and breakage detection ■ Reset pushbutton ■ Position indication ■ Twisting of towing eye not possible ■ External watertight collar ■ 3 cable entries M20 x 1.5 	<ul style="list-style-type: none"> ■ Manufacturer's assessment <div style="border: 1px solid black; background-color: #4a7ebb; color: white; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;"> ZONE 22 </div> <div style="text-align: right; margin-top: 10px;">  </div>
EX-I-RS655 SAFETY			
	<ul style="list-style-type: none"> ■  II 2G Ex ia IIC T6 Gb ■  II 2D Ex ia IIIC T85°C Db Ex tb IIIC T85°C Db ■ IP66, IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ Central connection terminal strip: ■ Wire pull and breakage detection ■ Mechanical switching position indication ■ Two-side operation / Wire length up to 2 x 100 m ■ 2 cable entries M25 x 1.5 	<ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, CCC-Ex <div style="border: 1px solid black; background-color: #4a7ebb; color: white; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;"> ZONE 1/21 </div> <div style="text-align: right; margin-top: 10px;">  </div>
EX-RS655 NEW SAFETY			
	<ul style="list-style-type: none"> ■  II 2G Ex db eb IIC T6 Gb Ex ia IIC T6 Gb ■  II 2D Ex tb IIIC T85°C Db Ex ia IIIC T85°C Db ■ IP66, IP67 	<ul style="list-style-type: none"> ■ Metal enclosure ■ Central connection terminal strip: ■ Wire pull and breakage detection ■ Mechanical switching position indication ■ Two-side operation / Wire length up to 2 x 100 m ■ 2 cable entries M25 x 1.5 ■ Can be used without intrinsically safety barrier 	<ul style="list-style-type: none"> ■ Certificates: ATEX, IECEx, CCC-Ex <div style="border: 1px solid black; background-color: #4a7ebb; color: white; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;"> ZONE 1/21 </div> <div style="text-align: right; margin-top: 10px;">  </div>

Detailed information about the products can be found at products.schmersal.com.

PULL-WIRE SWITCHES

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

EX-RS655-...-DS-2D/...-DN-2D

SAFETY



- II 2D
- Ex tb IIIC T85°C Db
- IP66, IP67

- Metal enclosure
- Central connection terminal strip:
- Wire pull and breakage detection
- Mechanical switching position indication
- Two-side operation /
- Wire length up to 2 x 100 m
- Variant with Dupline for zone 21 and 22
- 2 cable entries M25 x 1.5

- Certificates: ATEX, IECEx, CCC-Ex , INMETRO

ZONE
21



Simple electrical apparatus for intrinsic safety

TQ 441



- Metal enclosure
- 106 x 135 x 61 mm
- Wire pull and breakage detection
- Max. wire length 25 m
- 1 cable entry M20 x 1.5
- Degree of protection IP54

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

COMMAND AND SIGNALLING DEVICES

EX-RDRZ45 – EMERGENCY STOP BUTTON

SAFETY



- Ex II 2G
Ex ib IIC T4 Gb
- Ex II 2D
Ex tb IIIC T110°C Db
- IP65

- Emergency stop pushbutton
- Mounting hole Ø 22,3 mm

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDRZ45-3127 – EMERGENCY STOP BUTTON

NEW

SAFETY



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Emergency stop pushbutton
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDP – MUSHROOM HEAD IMPACT BUTTON



- Ex II 2G
Ex ib IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Mushroom head impact button
- Mounting hole Ø 22,3 mm

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDP-3127 – MUSHROOM HEAD IMPACT BUTTON

NEW



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Mushroom head impact button
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



Detailed information about the products can be found at products.schmersal.com.

EX-RDT – PUSHBUTTON



- Ex II 2G
Ex ib IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Pushbutton
- Mounting hole Ø 22,3 mm

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDT-3127 – PUSHBUTTON


NEW



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Pushbutton
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDM – PUSHBUTTON WITH DIAPHRAGM



- Ex II 2G
Ex ib IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Pushbutton
- Mounting hole Ø 22,3 mm

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDM-3127 – PUSHBUTTON WITH DIAPHRAGM

NEW



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Pushbutton
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RW...21 – SELECTOR SWITCH



- II 2G
Ex ib IIC T4 Gb
- II 2D
Ex tb IIIC T110°C Db
- IP65

- Selector switch
- Mounting hole Ø 22,3 mm

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RW...21-3127 – SELECTOR SWITCH

NEW



- II 2G
Ex eb IIC Gb
- II 2D
Ex tb IIIC Db
- IP65

- Selector switch
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RS...21 – KEY-OPERATED SELECTOR SWITCH



- II 2G
Ex ib IIC T4 Gb
- II 2D
Ex tb IIIC T110°C Db
- IP65

- Key-operated selector switches/buttons
- Mounting hole Ø 22,3 mm

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RS...21-3127 – KEY-OPERATED SELECTOR SWITCH

NEW



- II 2G
Ex eb IIC Gb
- II 2D
Ex tb IIIC Db
- IP65

- Key-operated selector switches/buttons
- Mounting hole Ø 22,3 mm
- Can be used without an intrinsically safe barrier

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RW...32 - SELECTOR SWITCH



- II 2G
Ex ib IIC T4 Gb
- II 2D
Ex tb IIIC T110°C Db
- IP65

- Selector switch
- Mounting hole Ø 22,3 mm

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RS...32 - KEY-OPERATED SELECTOR SWITCH



- II 2G
Ex ib IIC T4 Gb
- II 2D
Ex tb IIIC T110°C Db
- IP65

- Key-operated selector switches/buttons
- Mounting hole Ø 22,3 mm

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RML - INDICATOR LIGHTS



- II 2G
Ex ib IIC Gb
- II 2D
Ex tb IIIC Db
- IP65

- Indicator lights
- Mounting hole Ø 22,3 mm

Available colours:

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDL - ILLUMINATED PUSHBUTTON



- II 2G
Ex ib IIC Gb
- II 2D
Ex tb IIIC Db
- IP65

- Illuminated pushbutton
- Mounting hole Ø 22,3 mm

Available colours:

- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



EX-RDLM – ILLUMINATED PUSHBUTTON WITH DIAPHRAGM



- Ex II 2G
Ex ib IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65

- Illuminated pushbutton
- Mounting hole Ø 22,3 mm

Available colours:



- Certificates:
ATEX, IECEx, INMETRO

ZONE
1/21



Assembly housing

EX-RCB1



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65, in combination
with the EX-R
programme

- Stainless steel enclosure
- For applications in food processing
machinery
- Degree of protection IP69
- One hole for command devices

- Certificates:
ATEX, IECEx

ZONE
1/21

EX-RCB3



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65, in combination
with the EX-R
programme

- Stainless steel enclosure
- For applications in food processing
machinery
- Degree of protection IP69
- Three holes for command devices

- Certificates:
ATEX, IECEx

ZONE
1/21

EX-RCB5



- Ex II 2G
Ex eb IIC Gb
- Ex II 2D
Ex tb IIIC Db
- IP65, in combination
with the EX-R
programme

- Stainless steel enclosure
- For applications in food processing
machinery
- Degree of protection IP69
- Five holes for command devices

- Certificates:
ATEX, IECEx

ZONE
1/21

Detailed information about the products can be found at products.schmersal.com.

KEY TRAPPED SYSTEMS

EX-SHGV – GUARD LOCKING DEVICE



- Ⓢ II 2GD
Ex h T85°C
- IP65

- Guard locking device
- Metal enclosure
- Interlocking device

- Certificates:
ATEX

ZONE
1/21



EX-SHGV/D1 – GUARD LOCKING DEVICE



- Ⓢ II 2GD
Ex h T85°C
- IP65

- Guard locking device
- Metal enclosure
- 2 lock cylinders

- Certificates:
ATEX

ZONE
1/21



EX-SHGV/ESS – KEY-OPERATED SELECTOR SWITCH



- Ⓢ II 3G
Ex ic IIC T5 Gc
- Ⓢ II 3D
Ex tc IIIC T110°C Dc
- Front: IP65
- Wiring level: IP20
- Wiring compartment:
IP40

- Key-operated selector switch

- Certificates:
ATEX

ZONE
2/22



EX-SVE – KEY-OPERATED SELECTOR SWITCH INTERLOCKING DEVICE



- Ⓢ II 3D
Ex tc IIIC T85°C Dc X
- Front: IP65

- 1 ... 3 key-operated selector switches

- Certificates:
ATEX

ZONE
2/22



Detailed information about the products can be found at products.schmersal.com.

DOOR INTERLOCKS

SIMPLE ELECTRICAL APPARATUS FOR INTRINSIC SAFETY

AV 15



- Metal enclosure
- Fail-safe locking system
- For 1-leaf doors
- Certified for use in passenger lifts
- Manual release by means of M5 triangular key
- IP20

- For intrinsically safe current circuits (Ex i) to zone 1 and 21
- Manufacturer's assessment

ZONE
1/21



Information on the verification of intrinsic safety as well as installation examples can be found on pages 34 and 36. Detailed information about the products can be found at products.schmersal.com.

SAFETY-MONITORING MODULES

SRB101EXI

SAFETY



- Ex II (2) G [Ex ib Gb] IIC
- Ex II (2) D [Ex ib Db] IIIC (Circuits in zone 1, 21 / 2, 22)
- Ex II 3G Ex ec nC IIC T5 Gc (SRB in zone 2)
- Ex ec nC IIC T5 Gc
- IP20

- 1 safety contact
- Suitable for signal processing of emergency stop control devices, interlocking equipment, etc
- Associated apparatus for intrinsically safe circuits (Ex i)

- Certificates: ATEX, IECEx, INMETRO
- Installation in zone 2 possible for intrinsically safe apparatus in zone 1/21

ZONE 2

[ZONE 1/21]



SRB200EXI

SAFETY



- Ex II (2) G [Ex ib Gb] IIC
- Ex II (2) D [Ex ib Db] IIIC (Circuits in zone 1, 21 / 2, 22)
- Ex II 3G Ex ec nC IIC T5 Gc (SRB in zone 2)
- Ex ec nC IIC T5 Gc
- IP20

- 2 safety contacts
- Suitable for signal processing of emergency stop control devices, interlocking equipment, etc
- Associated apparatus for intrinsically safe circuits (Ex i)

- Certificates: ATEX, IECEx, INMETRO
- Installation in zone 2 possible for intrinsically safe apparatus in zone 1/21

ZONE 2

[ZONE 1/21]



SRB-EXI

Ex ib (Gas/dust)
Intrinsic safety

Ex tc (Dust)
Protection by enclosure

Ex tb (Dust)
Protection by enclosure

Ex ec (Gas)
Increased safety

ZONE 2 / 22

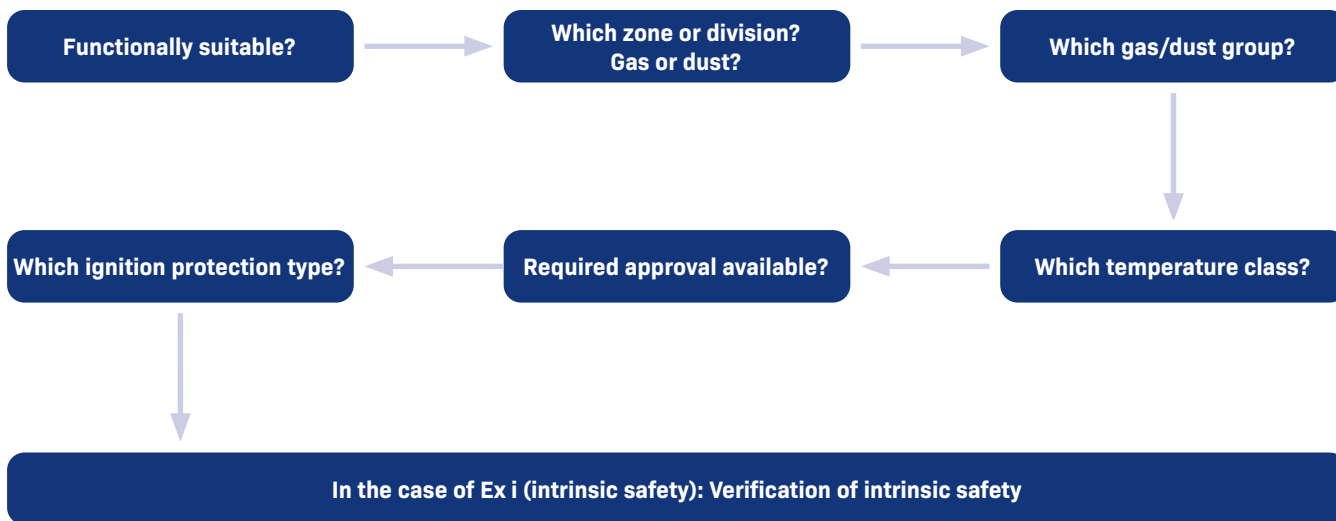
ZONE 1 / 21

ZONE 0 / 20

Detailed information about the products can be found at products.schmersal.com.

EXPLOSION PROTECTION

SELECTION OF SUITABLE DEVICES

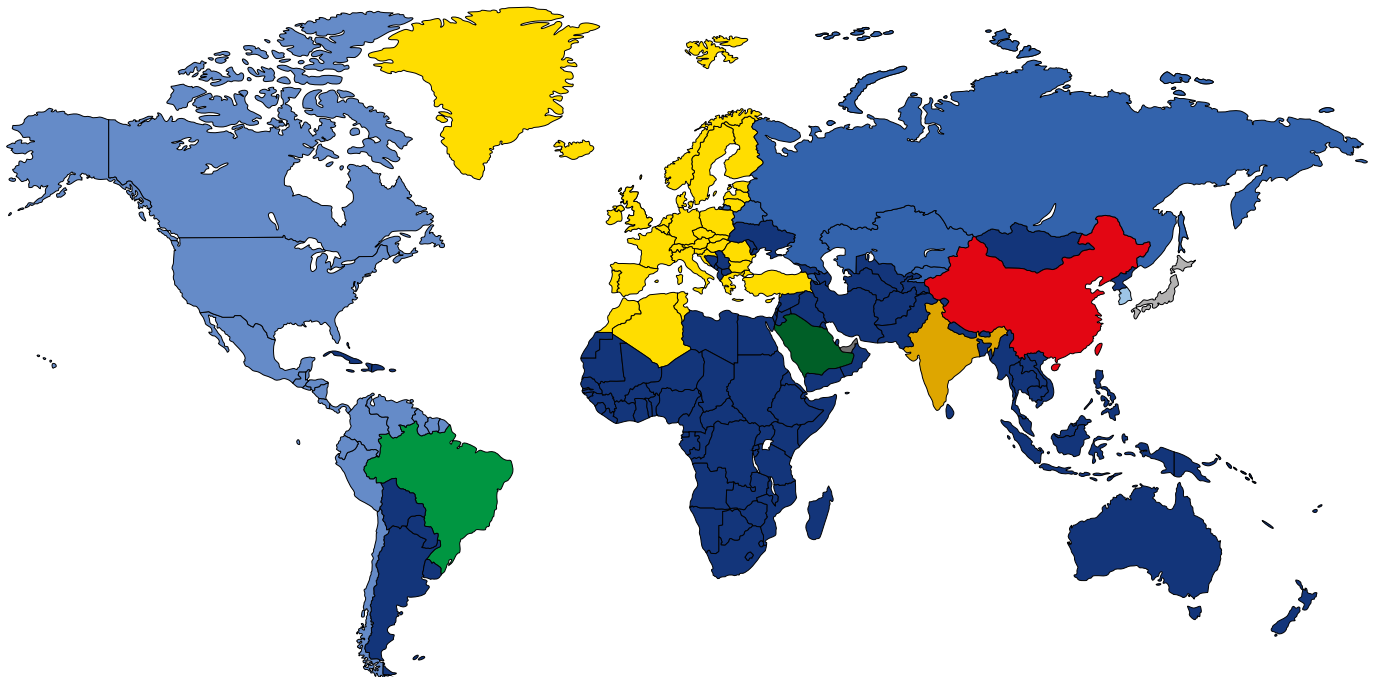


Intrinsically safe apparatus			Conditions	Associated apparatus		Result (Yes/No)
U_i	xxx		\geq	U_o	xxx	xxx
I_i	xxx		\geq	I_o	xxx	xxx
P_i	xxx		\geq	P_o	xxx	xxx
C_i	xxx + C_c (cable)	xxx	\leq	C_o	xxx	xxx
L_i	xxx + I_c (cable)	xxx	\leq	L_o	xxx	xxx

All conditions must be met.

EXPLOSION PROTECTION

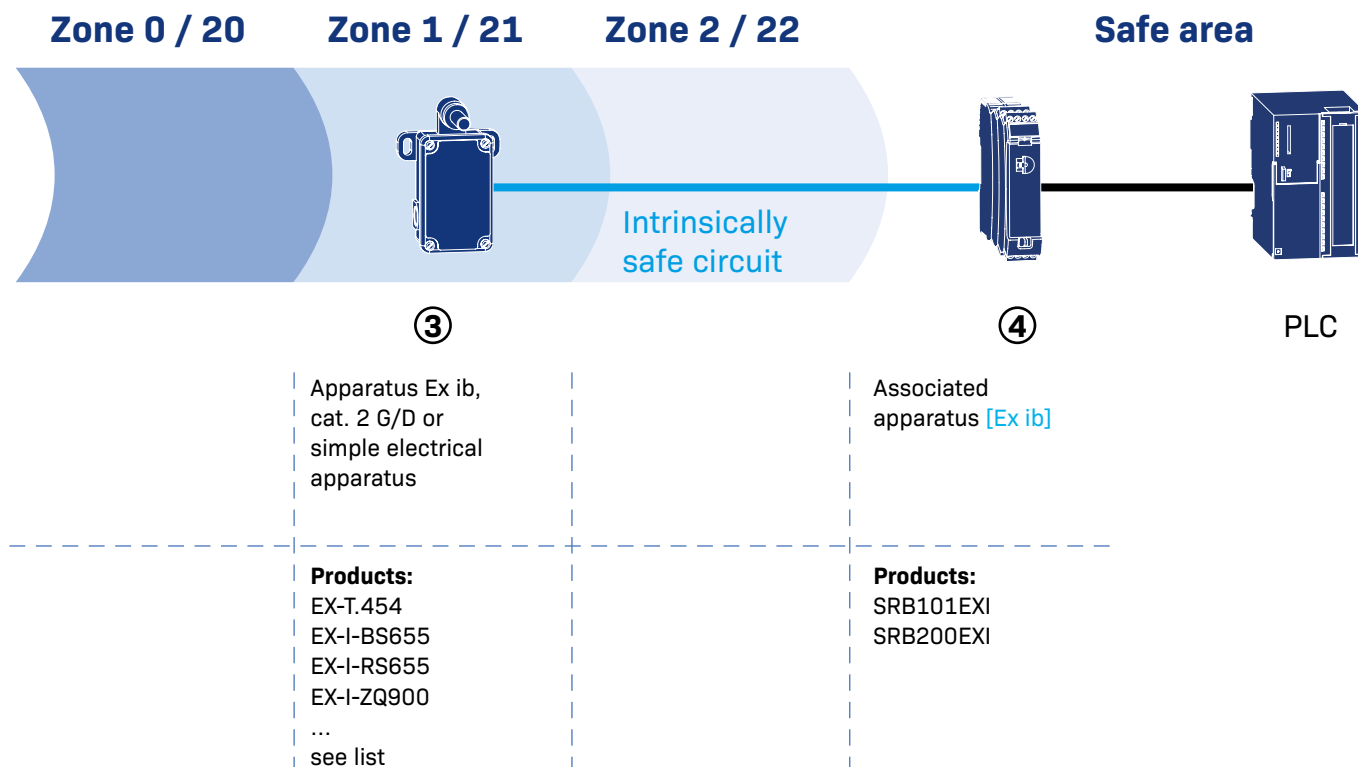
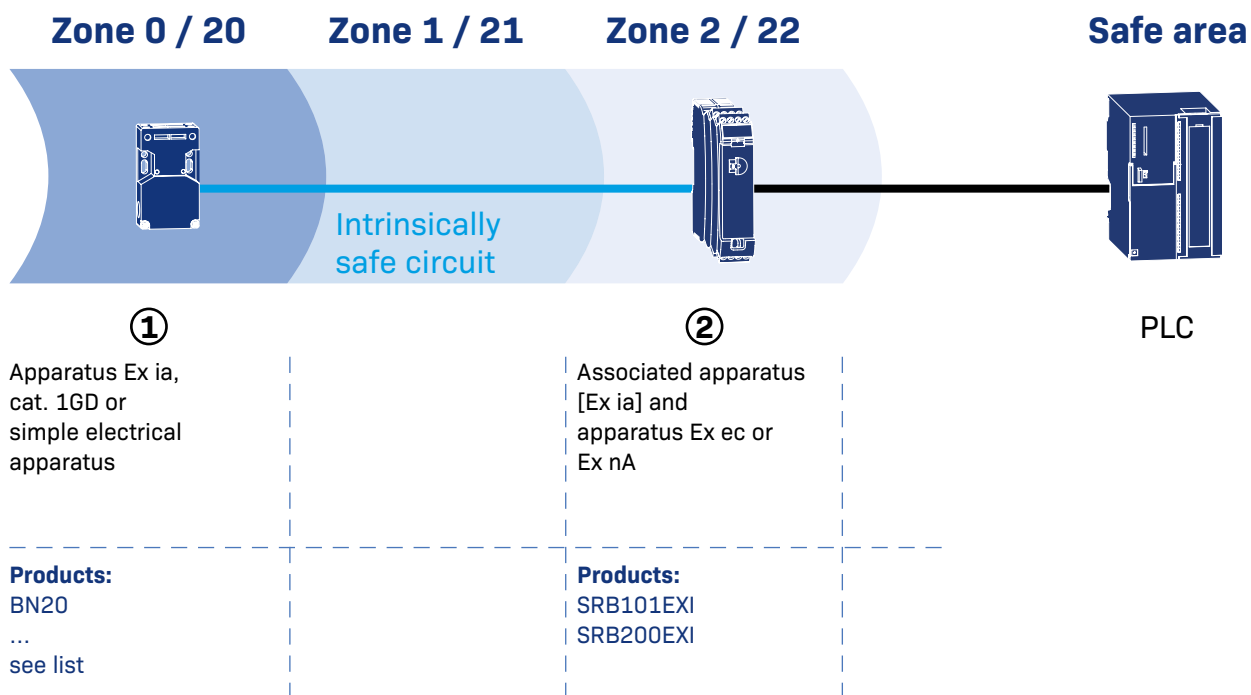
THE WORLD'S MOST IMPORTANT APPROVALS



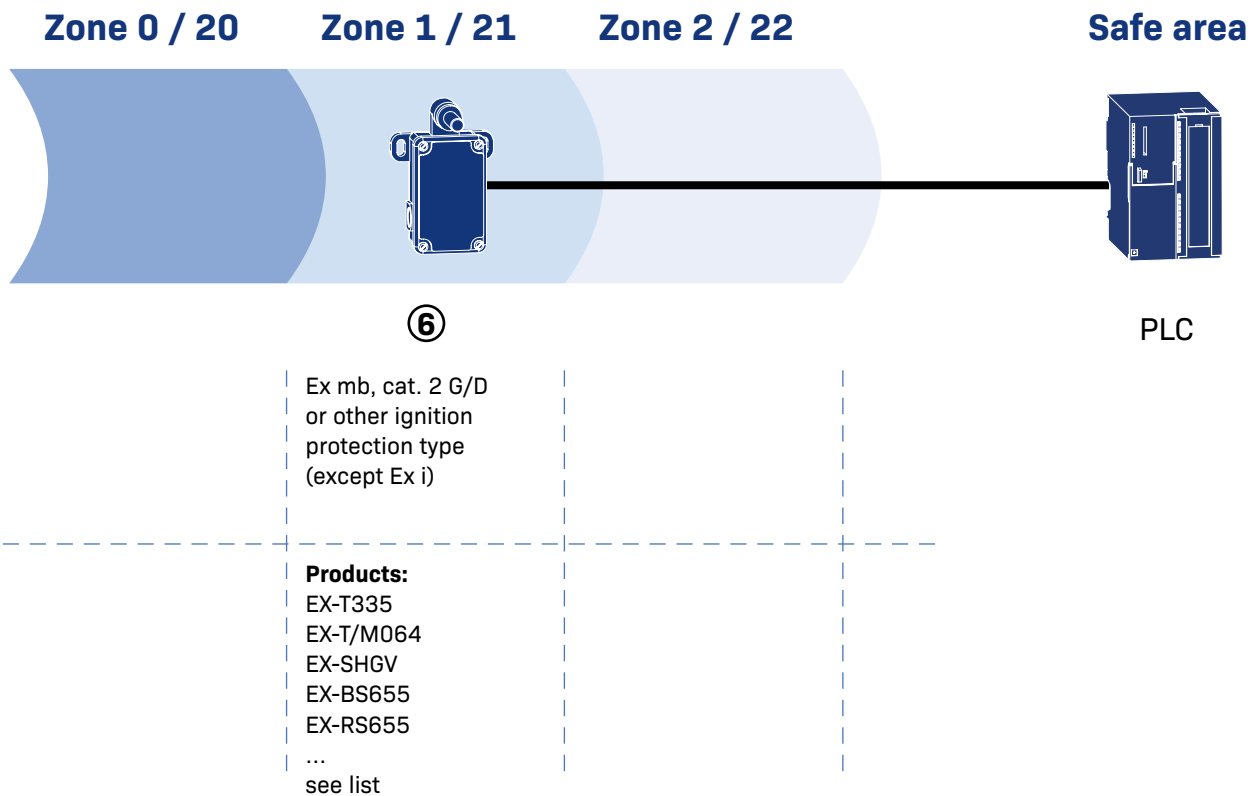
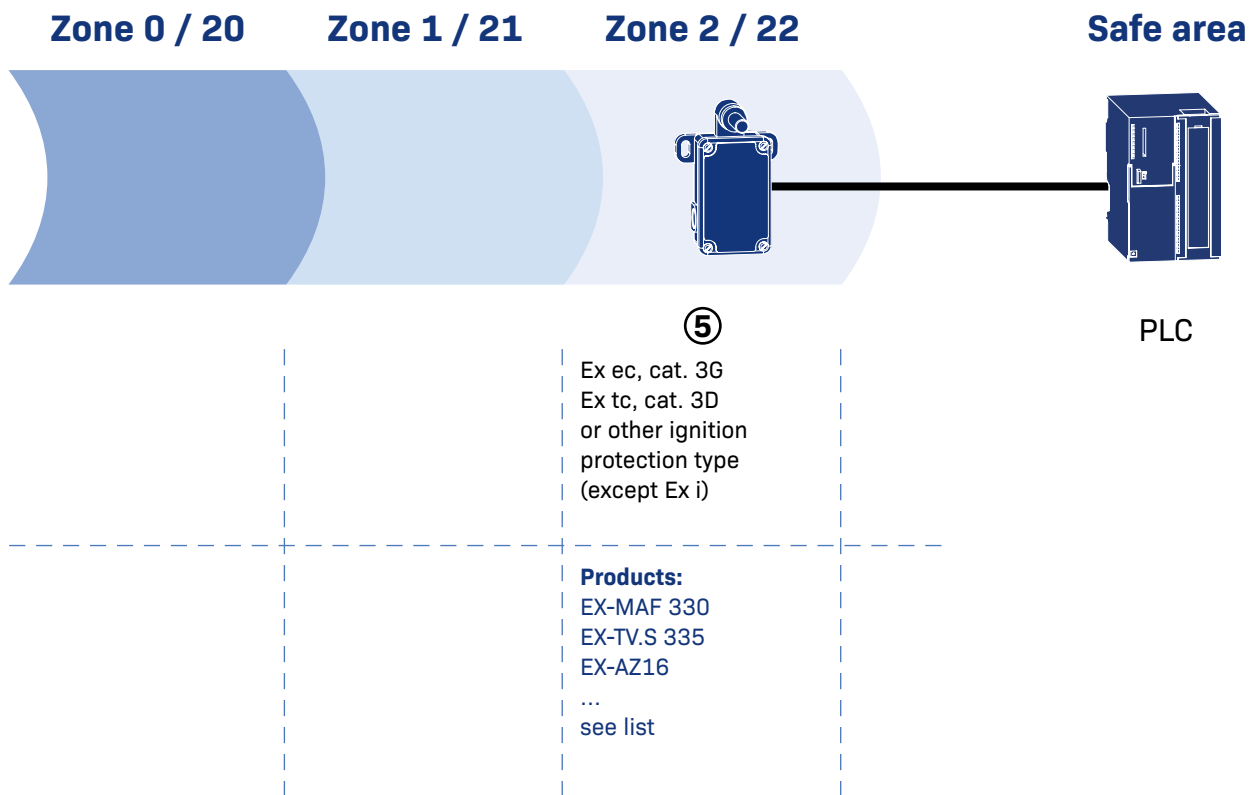
Pos.	Registrations	Country / Region	Logo	Responsible body
■	ATEX	European Economic Area, European Free Trade Association, Switzerland and Turkey		Notified body, e.g. TÜV
■	IECEX	International		Notified body, e.g. TÜV
■	CCC	China		e.g. NEPSI
■	INMETRO	Brazil		INMETRO
■	NEC, CEC	USA, Canada		e.g. UL, cUL, FM, CSA
■	PESO	India		PESO
■	EAC EX	Eurasian Economic Union		
■	KC	South Korea		KOSHA
■	TIIS	Japan		TIIS
■	SASO	Saudi Arabia		SASO

All information without guarantee.

EXPLOSION PROTECTION INSTALLATION EXAMPLES IN EX ZONES



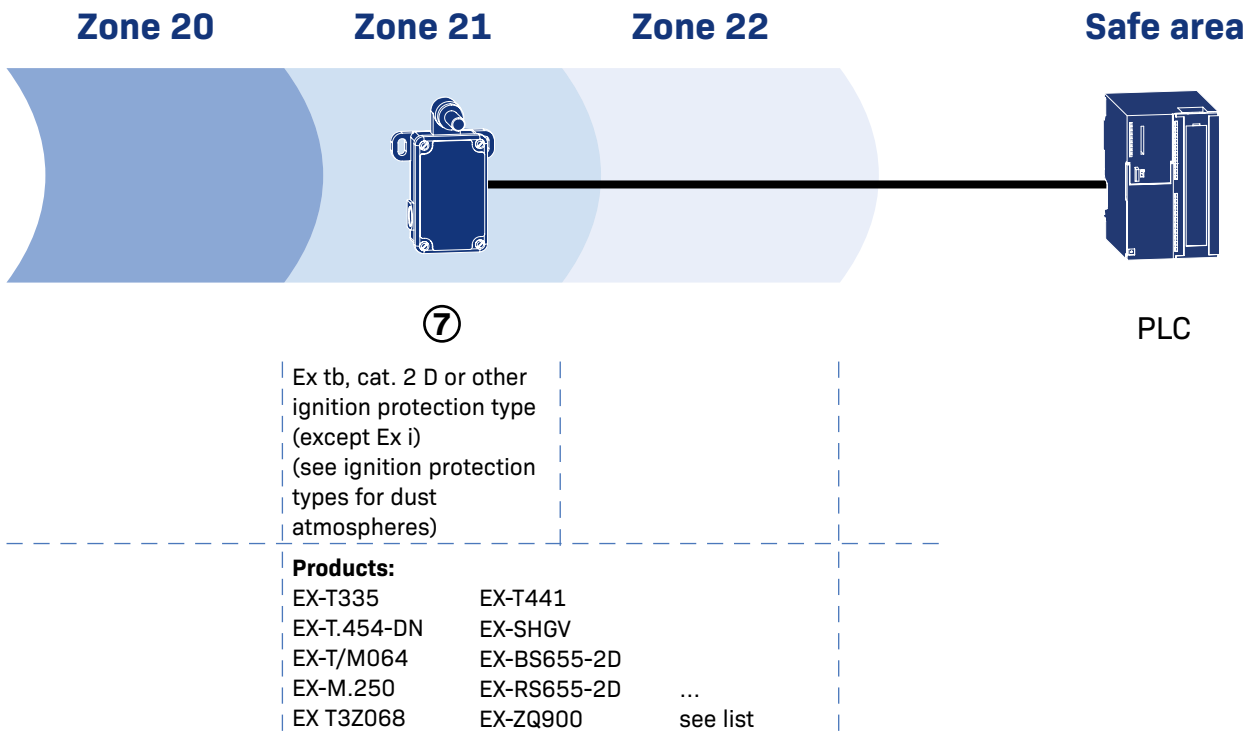
Further examples and explanations on the following pages.



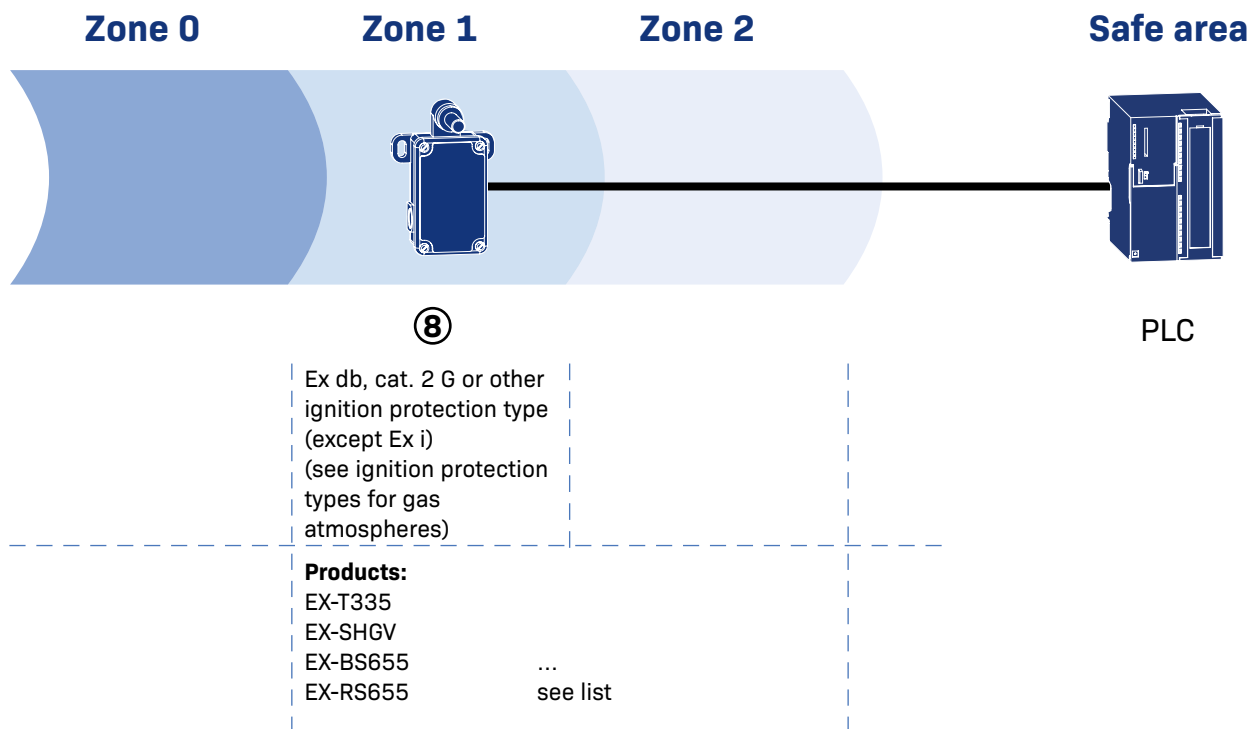
Further examples and explanations on the following pages.

EXPLOSION PROTECTION

INSTALLATION EXAMPLES IN EX ZONES



Example	Product in accordance with EX consideration	Examples for Ex designations
①	Intrinsically safe apparatus	⊕ II 1 G Ex ia IIC T6 Gb
	Simple electrical apparatus	No designation
②	Associated apparatus (required for intrinsically safe circuits)	⊕ II (1) G [Ex ia Ga] IIC
		⊕ II (1) D [Ex ia Da] IIIC
③	Apparatus for area at risk of explosion	⊕ II 3 G Ex ec nC IIC T5 Gc
	Simple electrical apparatus	⊕ II 2 G Ex ib IIC T6 Gb
④	Associated apparatus (required for intrinsically safe circuits)	No designation
		⊕ II (2) G [Ex ib Gb] IIC
⑤	Apparatus for area at risk of explosion	⊕ II (2) D [Ex ib Db] IIIC
		⊕ II 3 G Ex ec IIC T6 Gc
⑥	Apparatus for area at risk of explosion	⊕ II 3 D Ex tc IIIC T 90 °C Dc
		⊕ II 2 G Ex mb IIC T6 Gb
⑦	Apparatus for area at risk of explosion	⊕ II 2 D Ex mb IIIC T80°C Db
		⊕ II 2 D Ex tb IIIC T80°C Db
⑧	Apparatus for area at risk of explosion	⊕ II 2 G Ex db IIC T6 Gb



Description
Intrinsically safe apparatus for zone 0/20, 1/21, 2/22
Simple electrical apparatus do not require an Ex marking or certificate. However, the devices must be assessed for suitability as simple electrical apparatus in accordance with ATEX and IECEx
Without additional ignition protection type: Installation outside the hazardous area. Designation into which zone the associated apparatus may work – identifiable by the brackets. Circuits in zone 0, 1, 2 Circuits in zone 20, 21, 22
Installation area of the associated apparatus itself as far as into zone 2.
Intrinsically safe apparatus for zone 1, 21
Simple electrical apparatus do not require an Ex marking or certificate. However, the devices must be assessed for suitability as simple electrical apparatus in accordance with ATEX and IECEx
Without additional ignition protection type: Installation outside the hazardous area. Designation into which area the associated apparatus may work – identifiable by the brackets. Circuits in zone 1, 2 Circuits in zone 21, 22
Increased safety – zone 2
Protection by enclosure – zone 22
Encapsulation – zone 1
Encapsulation – zone 21
Protection by enclosure – zone 21
Pressure-resistant enclosure – zone 1

EXPLOSION PROTECTION SELECTION CHART

Function	Product range	Page	Gas	Dust	Zone						Control category	EPL
					0	1	2	20	21	22		
Solenoid interlocks	EX-AZM 161	4	-	■	-	-	-	-	-	■	3D	Dc
	EX-AZM 161i	4	-	■	-	-	-	-	-	■	3D	Dc
	EX-AZM 170	4	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-AZM 170i	4	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-AZM 300-2D	5	-	■	-	-	-	-	-	■	2D	Db
	EX-AZM 300	5	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-AZM 415	5	-	■	-	-	-	-	-	■	3D	Dc
Safety switches with separate actuator	EX-AZ 16	6	-	■	-	-	-	-	-	■	3D	Dc
	EX-AZ 16	6	■	-	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-AZ 3350	6	-	■	-	-	-	-	-	■	3D	Dc
	AZ 16ZI-M16	7	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	AZ 16...Z	7	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Safety sensors	EX-BNS 250	8	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-BNS 33	9	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-BNS 120	8	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-BNS 180	8	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-BNS 303	9	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-BNS 40S	8	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-CSS 180	9	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-RSS16	9	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	BNS 120	10	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 180	10	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 250-11z	10	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 250-12z-1287	10	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 260	11	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 260-ST	11	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 303	11	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BNS 33	11	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
BNS 36	12	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db	
BNS 40S	12	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db	
Magnetic reed switches	EX-BN 20	13	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	BN 20	13	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BN 325	13	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	BN 65	13	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Micro switches	M 660-11-2-Y	14	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Safety light grids / light curtains	EX-SLC440	15	■	■	-	■	-	-	■	-	2G / 2D	Gb / Db
	EX-SLG440	15	■	■	-	■	-	-	■	-	2G / 2D	Gb / Db

	Explosion protection types	Gas group / Dust group	Temperature class / Temperature	Certificate					Manufacturer's assessment for simple electrical apparatus (EEB)	Suitable for safety-related applications (EN ISO 13849-1)
				ATEX	IECEX	INMETRO	CCC-Ex	UL-Ex		
	tc	IIIC	T80°C	-	-	-	-	-	-	■
	tc	IIIC	T80°C	-	-	-	-	-	-	■
	nC / tc	IIC / IIIC	T5 / T80°C	-	-	-	-	-	-	■
	nC / tc	IIC / IIIC	T5 / T80°C	-	-	-	-	-	-	■
	ec / tc	IIC / IIIC	-	■	■	■	■	■	-	■
	ec / tc	IIC / IIIC	T5 / T95°C	-	-	-	-	-	-	■
	tc	IIIC	T90°C	-	-	-	-	-	-	■
	tc	IIC / IIIC	T90°C	-	-	-	-	-	■	■
	Ex i	IIC / IIIC	T90°C	-	-	-	-	-	■	■
	tc	IIIC	T90°C	-	-	-	-	-	-	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	nC, tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	■	■
	nC / tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	-	■
	nC, tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	■	■
	nC, tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	■	■
	nC / tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	-	■
	ec, nC / tc	IIC / IIIC	T6 / T80°C	-	-	-	-	-	-	■
	ec, nC / tc	IIC / IIIC	T6 / T70°C	-	-	-	-	-	-	■
	ec / tc	IIC / IIIC	T6 / T90°C	-	-	-	-	-	-	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	nC / tc	IIC / IIIC	T5 / T90°C	-	-	-	-	-	-	in combination with SRB400
	Ex i	-	-	-	-	-	-	-	■	-
	Ex i	-	-	-	-	-	-	-	■	-
	Ex i	-	-	-	-	-	-	-	■	-
	Ex i	-	-	-	-	-	-	-	■	-
	db / tb	IIA / IIIC	T6 / T80°C	■	■	-	-	-	-	-
	db / tb	IIA / IIIC	T6 / T80°C	■	■	-	-	-	-	-

EXPLOSION PROTECTION SELECTION CHART

Function	Product range	Page	Gas	Dust	Zone						Control category	EPL
					0	1	2	20	21	22		
Position switches	EX-Z/T 235	17	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-Z/T 335	17	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-Z/T 355	17	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-T 335	17	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-M 330	17	-	■	-	-	-	-	-	■	3D	Dc
	EX-I-BS655	16	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-BS655	16	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-BS655-DN-2D	16	-	■	-	-	-	-	■	■	2D	Db
	Z/T 235	18	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	Z/T 236	18	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	Z/T 335	18	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	Z/T 336	19	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	Z/T 355	18	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	T./M. 441-11y	19	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
T./M. 470 Y-1276-2	19	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db	
Safety switches for hinged guards	EX-TV.S 335	20	-	■	-	-	-	-	-	■	2D	Db
	TESF	20	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	TESK	20	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	TESZ	20	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Belt alignment/slack-wire/level switches	EX-T/M 441	22/23	-	■	-	-	-	-	■	■	2D	Db
Belt alignment switches	EX-I-BS655	22	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-BS655	22	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-BS655-DN-2D	22	-	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Pull-wire emergency stop switches	EX-ZQ900	24	-	■	-	-	-	-	-	■	3D	Dc
	EX-I-ZQ900	24	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-I-RS655	24	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-RS655	24	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
	EX-RS655-...-DS-2D/...-DN-2D	25	-	■	-	-	-	-	-	■	■	2G / 2D
Pull-wire switches	TQ 441	25	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db

	Explosion protection types	Gas group / Dust group	Temperature class / Temperature	Certificate					Manufacturer's assessment for simple electrical apparatus (EEB)	Suitable for safety-related applications (EN ISO 13849-1)
				ATEX	IECEX	INMETRO	CCC-Ex	UL-Ex		
	nC / tc	IIC / IIIC	T5 / T90°C	-	-	-	-	-	-	■
	nC / tc	IIC / IIIC	T5 / T90°C	-	-	-	-	-	-	nur 2138
	nC / tc	IIC / IIIC	T5 / T90°C	-	-	-	-	-	-	nur 2138
	eb, db / tb	IIC / IIIC	T6 / T80°C	■	■	■	■	-	-	-
	tc	IIIC	T100°C	-	-	-	-	-	-	-
	ib / tb	IIC / IIIC	T6 / T85°C	■	■	■	■	-	-	■
	db / tb	IIC / IIIC	T6 / T85°C	■	■	■	■	-	-	■
	tb	IIIC	T85°C	■	■	■	■	-	-	■
	Ex ib	-	-	-	-	-	-	-	■	■
	Ex ib	-	-	-	-	-	-	-	■	■
	Ex ib	-	-	-	-	-	-	-	■	■
	Ex ia	-	-	-	-	-	-	-	■	■
	Ex ib	-	-	-	-	-	-	-	■	■
	Ex ib	-	-	-	-	-	-	-	■	Positive break contacts only; 1801, toothed shaft
	Ex ib	-	-	-	-	-	-	-	■	■
	tc	IIIC	T90°C	-	-	-	-	-	-	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	Ex i	-	-	-	-	-	-	-	■	■
	tb	IIIC	T90°C	■	■	■	■	-	■	Positive break contacts only; 1801, toothed shaft
	ib / tb	IIC / IIIC	T6 / T85°C	■	■	■	■	-	-	■
	db / tb	IIC / IIIC	T6 / T85°C	■	■	■	■	-	-	■
	ib / tb	IIIC	T85°C	■	■	■	■	-	-	■
	tc	IIIC	T100°C	-	-	-	-	-	-	■
	ib / tb	IIC / IIIC	T6 / T85°C	■	■	■	-	-	-	■
	ib / tb	IIC / IIIC	T6 / T85°C	■	■	-	■	-	-	■
	db / tb	IIC / IIIC	T6 / T85°C	■	■	■	■	-	-	■
	tb	IIIC	T85°C	■	■	■	■	-	-	■
	Ex i	-	-	-	-	-	-	-	■	-

EXPLOSION PROTECTION SELECTION CHART

Function	Product range	Page	Gas	Dust	Zone						Control category	EPL
					0	1	2	20	21	22		
Emergency-Stop buttons	EX-RDRZ45	26	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RDRZ45-3127	26	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Mushroom buttons	EX-RDP40	26	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RDP40-3127	26	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Pushbuttons	Ex-RDT	27	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RDT-3127	27	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
	EX-RDM	27	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RDM-3127	27	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Illuminated pushbuttons	EX-RDL	29	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RDLM	30	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Indicator lights	EX-RML	29	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RML	29	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Selector switches	EX-RW	28/29	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RW-3127	28	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Key-operated selector switches	EX-RS...21	28/29	■	■	-	■	■	-	-	-	2G / 2D	Gb / Db
	EX-RS...21-3127	28	■	■	-	-	-	-	■	■	2G / 2D	Gb / Db
Enclosures for command and signalling devices	EX-RCB	30	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Trapped key systems	EX-SHGV...2GD	31	■	■	-	■	-	-	■	-	2G / 2D	Gb / Db
	EX-SHGV/D1	31	■	■	-	■	-	-	■	-	2G / 2D	Gc / Dc
	EX-SHGV/ESS	31	■	■	-	-	■	-	-	■	3G / 3D	Gc / Dc
	EX-SVE	31	-	■	-	-	-	-	-	■	3D	Dc
Safety-monitoring modules	SRB101EXI / SRB200EXI	33	■	■	-	[■]	■	[■]	[■]	-	3G / [2G / 2D]	Gc [Gb / Db]
	SRB101EXI / SRB200EXI	33	■	■	-	[■]	[■]	-	[■]	[■]	3G / [2G / 2D]	Gc [Gb / Db]
Door interlocks	AV 15	32	■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Floor switches	ASH 015		■	■	-	■	■	-	■	■	2G / 2D	Gb / Db
Positive-operation door contacts	AZ 13		■	■	-	■	■	-	■	■	2G / 2D	Gb / Db

Explosion protection types	Gas group / Dust group	Temperature class / Temperature	Certificate					Manufacturer's assessment for simple electrical apparatus (EEB)	Suitable for safety-related applications (EN ISO 13849-1)
			ATEX	IECEX	INMETRO	CCC-Ex	UL-Ex		
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	■
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	■
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
eb / tb	IIC / IIIC	T4 / 110°C	■	■	■	-	-	-	-
h	IIC / IIIC	T85°C	■	-	-	-	-	-	-
tc	IIC / IIIC	T5 / 110°C	■	-	-	-	-	-	-
ic	IIC / IIIC	T5 / 110°C	■	-	-	-	-	-	-
tc	IIIC	T85°C	■	-	-	-	-	-	-
ec, nC	IIC / IIIC	T5	■	■	■	-	-	-	■
[ib]	IIC / IIIC	T5	■	■	■	-	-	-	■
Ex i	-	-	-	-	-	-	-	■	-
Ex i	-	-	-	-	-	-	-	■	-
Ex i	-	-	-	-	-	-	-	■	-

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