



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX TUR 19.0061** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 2 [Issue 1 \(2021-01-15\)](#)  
[Issue 0 \(2020-09-23\)](#)  
Date of Issue: 2023-03-02  
Applicant: **Schmersal Industrial Switchgear (Shanghai) Co., Ltd.**  
Cao Ying Road 3336, Qingpu  
Shanghai 201712  
China  
Equipment: **Belt Alignment Switch, Position Switch, EX-I-BS655..., EX-BS655..., EX-BS655-...-DS-2D, EX-BS655...-DN-2D  
Pull-Wire Emergency Stop Switch : EX-I-RS655..., EX-RS655..., EX-RS655-...-DS-2D, EX-RS655...-DN-2D**  
Optional accessory:  
Type of Protection: **"ia", "tb", "eb", "db"**  
Marking: Ex ia IIC T6 Gb, Ex ia IIIC T85°C Db, Ex tb IIIC T85°C Db, Ex db eb IIC T6 Gb


Approved for issue on behalf of the IECEx  
Certification Body:

**Christian Mehrhoff**

Position:

**Assigned certifier**

Signature:  
(for printed version)



2022-03-20

Date:  
(for printed version)

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# IECEX Certificate of Conformity

Certificate No.: **IECEX TUR 19.0061**

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Date of issue: 2023-03-02

Issue No: 2

Manufacturer: **Schmersal Industrial Switchgear (Shanghai) Co., Ltd.**  
Cao Ying Road 3336, Qingpu  
Shanghai 201712  
**China**

Manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/TUR/ExTR19.0061/02](#)

Quality Assessment Report:

[DE/TUR/QAR20.0011/00](#)



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Date of issue: 2023-03-02

Issue No: 2

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### **Belt Alignment Switches, Position Switches**

The Belt Alignment Switches, Position Switches type EX-I-BS655 is used for detecting the position and monitoring moving belts in areas of Zone 1, Zone 2.

The Belt Alignment Switches, Position Switches type EX-BS655..-DN-2D and EX-BS655..-DS-2D are used for detecting the position and monitoring moving belts in areas of Zone 21 and 22 they can be equipped with a DuplineSafe® input modul.

The Belt Alignment Switches, Position Switches detects the position of the belt by two switching position. The first switching position is early warning the second position is for cut off the belt. The switch consists of a metal enclosure inner mounted switching elements and variant types of mechanical actuators.

The aspects of the mechanical explosion protection of the actuators are not part of this testing.

### **The Pull-Wire Emergency Stop Switches**

The Pull-Wire Emergency Stop Switches type EX-I-RS655 are fitted to machines and plant components in areas of Zone 1, Zone 2.

The Pull-Wire Emergency Stop Switches type EX-RS655..-DS-2D are fitted to machines and plant components in areas of Zone 21 and 22 the can be equipped with DuplineSafe® input modul.

The Pull-Wire Emergency Stop Switches are used to give the stop order from any position along the machine or plant component. The switch consists of a metal enclosure, a reset button, a wire eye and gaskets.

## **SPECIFIC CONDITIONS OF USE: NO**



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**Equipment (continued):**

**technical datas see attachement**



# IECEX Certificate of Conformity

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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**  
see annex

**Annex:**

[IECEX\\_TUR\\_19.0061\\_02\\_Attachment\\_1.pdf](#)



Attachment to Certificate  
IECEX TUR 19.0061  
Revision 02

Attachment to Certificate IECEX TUR 19.0061

**Device:** Belt Alignment Switch, Position Switch,  
Pull-Wire Emergency Stop Switch

**Type:** EX-I-BS655..., EX-BS655..., EX-BS655-...-DS-2D,  
EX-BS655..-DN-2D  
EX-I-RS655..., EX-RS655..., EX-RS655-...-DS-2D,  
EX-RS655..-DN-2D

**Manufacturer:** Schmersal Industrial Switchgear (Shanghai) Co., Ltd.

**Address:** Cao Ying Road 3336, Qingpu, 201712 Shanghai, China

**General product information:**

**Belt Alignment Switches, Position Switches**

The Belt Alignment Switches, Position Switches type EX-I-BS655 is used for detecting the position and monitoring moving belts in areas of Zone 1, Zone 2.

The Belt Alignment Switches, Position Switches type EX-BS655..-DN-2D and EX-BS655..-DS-2D are used for detecting the position and monitoring moving belts in areas of Zone 21 and 22 they can be equipped with a DuplineSafe® input modul.

The Belt Alignment Switches, Position Switches detects the position of the belt by two switching position. The first switching position is early warning the second position is for cut off the belt. The switch consists of a metal enclosure inner mounted switching elements and variant types of mechanical actuators. The aspects of the mechanical explosion protection of the actuators are not part of this testing.

**The Pull-Wire Emergency Stop Switches**

The Pull-Wire Emergency Stop Switches type EX-I-RS655 are fitted to machines and plant components in areas of Zone 1, Zone 2.

The Pull-Wire Emergency Stop Switches type EX-RS655..-DS-2D are fitted to machines and plant components in areas of Zone 21 and 22 the can be equipped with DuplineSafe® input modul.

The Pull-Wire Emergency Stop Switches are used to give the stop order from any position along the machine or plant component. The switch consists of a metal enclosure, a reset button, a wire eye and gaskets.



Attachment to Certificate  
IECEX TUR 19.0061  
Revision 02

**Issue 02**

**Details of Change**

For the various types of switch, the type of protection has been modified in some cases, the range of applications has been extended and a further type of protection has been added by the optional installation of a flameproof switching element inside the enclosure..

The assignment can be seen in the table below.

For type of protection Ex ib IIC T6 Gb changed to Ex ia IIC T6 Gb.

A new type of protection is added Ex ia IIIC T85°C Db. DEMKO 20 ATEX 2369U Rev. 0 and IECEX\_ULBR\_20.0004U\_000

The type EX-BS 655 can be equippt with separately certified (eb, db) switching modules. So a new type of protection is added Ex db eb IIC T6 Gb

**Overview HDS types, Zones, ignition protection type**

		EX-I-BS/RS655	EX-BS/RS655-2D	EX-BS/RS655
Zone	Zone 1 Gas	X		X
	Zone 21 Dust	X	X	X
Ignition protection type	Ex de, Gas			X
	Ex t, Dust	X	X	X
	Ex i, Gas (associated equipment required)	X		X
	Ex i, Dust (associated equipment required)	X		X
Construction	Terminal block	X	X	
Communication	Dupline		X	

Following types are now existing:

Type	Type of protection
EX-I-BS655-... and EX-I-RS655-...	Ex ia IIC T6 Gb Ex ia IIIC T85°C Db. Ex tb IIIC T85°C Db
EX-BS655-...-DS-2D EX-BS655...-DN-2D EX-RS655-...-DS-2D EX-RS655...-DN-2D	Ex tb IIIC T85°C Db
EX-BS 655	Ex ia IIC T6 Gb Ex ia IIIC T85°C Db. Ex tb IIIC T85°C Db Ex db eb IIC T6 Gb



**Type code Belt Alignment Switches, Position Switches EX-I-BS655...**

EX-I-BS655	[1]	[2]-	[3]		
<b>[1]</b>	<b>Contact Versions</b>				
	Z22	Snap action, 2 NO contacts / 2 NC contacts			
	T22	Slow action, 2 NO contacts / 2 NC contacts			
<b>[2]</b>	<b>Contact material</b>				
	(leer/blank)	Silver contacts			
	A1	Gold-plated, 0,3µm			
	A2	Gold-plated, 1,0µm			
	A3	Gold-plated, 3,0µm			
<b>[3]</b>	<b>Special Versions</b>				
	(leer/blank)	Without special functions			
	xxxx	Customer-specific setting of the switching points			

**Technical data for Belt Alignment Switches, Position Switches  
type EX-I-BS655... in type of protection Ex ia IIC T6 Gb and Ex ia IIIC T85°C Db**

For connecting to one intrinsically safe circuit

Max. input voltage	$U_i$	60 V
Max. input current	$I_i$	100mA
Max. input power	$P_i$	6W
Max. inner capacity	$C_i$	negligible
Max. inner inductance	$L_i$	negligible

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Belt Alignment Switches, Position Switches  
type EX-I-BS655... in type of protection Ex tb IIIC T85°C Db**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$





**Type code Belt Alignment Switches, Position Switches EX-BS655..-DS-2D / EX-BS655..-DN-2D**

EX-BS655-	[1]	[2]-	[3]-	[4]-	[5]
<b>[1]</b>	<b>Contact Versions</b>				
	Z22	Snap action, 2 NO contacts / 2 NC contacts			
	T22	Slow action, 2 NO contacts / 2 NC contacts			
<b>[2]</b>	<b>Contact material</b>				
	(leer/blank)	Silver contacts			
	A1	Gold-plated, 0,3µm			
	A2	Gold-plated, 1,0µm			
	A3	Gold-plated, 3,0µm			
<b>[3]</b>	<b>Dupline module</b>				
	DS	Optionally with integrated DuplineSafe® input module			
	DN	Optionally with integrated Dupline® input module			
<b>[4]</b>	<b>EX-Categories</b>				
	2D	Zone 21 and 22			
	<b>Special Versions</b>				
<b>[5]</b>	(leer/blank)	Without special functions			
	xxxx	Customer-specific setting of the switching points			

**Technical data for Belt Alignment Switches, Position Switches  
type EX-BS655..-DS-2D / EX-BS655..-DN-2D in type of protection Ex tb IIIC T85°C Db**

Rated insulation voltage	U <sub>i</sub>	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	U <sub>imp</sub>	4 kV

Ambient temperature range     -25°C ≤ T<sub>a</sub> ≤ +70 °C

**Type code Belt Alignment Switches, Position Switches EX-BS655**

EX-BS655	[1]	[2]-	[3]		
<b>[1]</b>	<b>Contact Versions</b>				
	Z22	Snap action, 2 NO contacts / 2 NC contacts			
	T22	Slow action, 2 NO contacts / 2 NC contacts			
<b>[2]</b>	<b>Contact material</b>				
	(leer/blank)	Silver contacts			
	A1	Gold-plated, 0,3µm			
	A2	Gold-plated, 1,0µm			
	A3	Gold-plated, 3,0µm			
<b>[3]</b>	<b>Special Versions</b>				
	(leer/blank)	Without special functions			
	xxxx	Customer-specific setting of the switching points			



**Technical data for Belt Alignment Switches, Position Switches  
type EX-BS655 in type of protection Ex ia IIC T6 Gb and Ex ia IIIC T85°C Db**

For connecting to one intrinsically safe circuit

Max. input voltage	$U_i$	60 V
Max. input current	$I_i$	100mA
Max. input power	$P_i$	6W
Max. inner capacity	$C_i$	negligible
Max. inner inductance	$L_i$	negligible

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Belt Alignment Switches, Position Switches  
type EX-BS655 in type of protection Ex tb IIIC T85°C Db**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Belt Alignment Switches, Position Switches  
type EX-BS655 in type of protection Ex db eb IIC T6 Gb**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C}$

**Type code Pull-Wire Emergency Stop Switches EX-I-RS655**

<b>EX-I-RS655</b>	<b>[1]</b>	<b>[2]</b>			
<b>[1]</b>	<b>Contact Versions</b>				
	Z22		Snap action, 2 NO contacts / 2 NC contacts		
	T22		Slow action, 2 NO contacts / 2 NC contacts		
<b>[2]</b>	<b>Contact material</b>				
	(leer/blank)		Silver contacts		
	A1		Gold-plated, 0,3µm		
	A2		Gold-plated, 1,0µm		
	A3		Gold-plated, 3,0µm		



**Technical data for Pull-Wire Emergency Stop Switches  
type EX-I-RS 655 in type of protection Ex ia IIC T6 Gb and Ex ia IIIC T85°C Db**

For connecting to one intrinsically safe circuit

Max. input voltage	$U_i$	60 V
Max. input current	$I_i$	100 mA
Max. input power	$P_i$	6 W
Max. inner capacity	$C_i$	negligible
Max. inner inductance	$L_i$	negligible

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Pull-Wire Emergency Stop Switches  
type EX-I-RS655... in type of protection Ex tb IIIC T85°C Db**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Type code Pull-Wire Emergency Stop Switches EX-RS655..-DS-2D**

EX-RS655	[1]	[2]-	[3]-	[4]-
[1]	<b>Contact Versions</b>			
	Z22	Snap action, 2 NO contacts / 2 NC contacts		
	T22	Slow action, 2 NO contacts / 2 NC contacts		
[2]	<b>Contact material</b>			
	(leer/blank)	Silver contacts		
	A1	Gold-plated, 0,3µm		
	A2	Gold-plated, 1,0µm		
	A3	Gold-plated, 3,0µm		
[3]	<b>Dupline module</b>			
	DS	Optionally with integrated DuplineSafe® input module		
	DN	Optionally with integrated Dupline® input module		
[4]	<b>EX-Categories</b>			
	2D	Zone 21 and Zone 22		

**Technical data for Pull-Wire Emergency Stop Switches  
type EX-RS655..-DS-2D / EX-RS655..-DS-2D in type of protection Ex tb IIIC T85°C Db**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	6 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$



**Type code Pull-Wire Emergency Stop Switches EX-RS655**

<b>EX-RS655</b>	<b>[1]</b>	<b>[2]</b>			
<b>[1]</b>	<b>Contact Versions</b>				
	Z22		Snap action, 2 NO contacts / 2 NC contacts		
	T22		Slow action, 2 NO contacts / 2 NC contacts		
<b>[2]</b>	<b>Contact material</b>				
	(leer/blank)		Silver contacts		
	A1		Gold-plated, 0,3µm		
	A2		Gold-plated, 1,0µm		
	A3		Gold-plated, 3,0µm		

**Technical data for Pull-Wire Emergency Stop Switches  
type EX-RS655 in type of protection Ex ia IIC T6 Gb and Ex ia IIC T85°C Db**

For connecting to one intrinsically safe circuit

Max. input voltage	$U_i$	60 V
Max. input current	$I_i$	100 mA
Max. input power	$P_i$	6 W
Max. inner capacity	$C_i$	negligible
Max. inner inductance	$L_i$	negligible

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Pull-Wire Emergency Stop Switches  
type EX-RS655... in type of protection Ex tb IIC T85°C Db**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

**Technical data for Pull-Wire Emergency Stop Switches  
type EX-RS 655..in type of protection Ex db eb IIC T6 Gb**

Rated insulation voltage	$U_i$	300 V
Utilization category	AC-15:	230 V / 3 A
	DC-13:	24 V / 3 A
Rated surge voltage	$U_{imp}$	4 kV

Ambient temperature range  $-25^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C}$