SREX506 SERIES

ATEX

SLIP RING

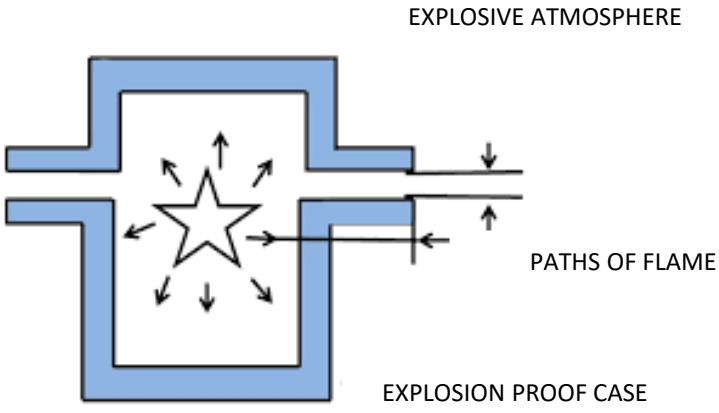
IECEx

1.0 SLIP RING ASSEMBLY SREX506 SERIES

The slip ring assemblies are designed for an operational voltage of max. 6kV.
Depending on the size and the application of the spring-driven cable reel both sliprings for the data transmission
(mA-range / data bus systems) and sliprings for power transmission (up to max. 638 A) can be used.
The individually admissible amperages of the slipring assemblies can be gathered from the selection list.
The material of the cover the slip ring is steel Correspond to protection class IP 66

2.0 POWER SLIP RING SREX506 Ex "db" - Explosion proof (EXPLOSION PROOF)

Basic principle In this method of protection it is allowed that the explosive atmosphere comes into contact with the sliding contacts in tension. However, these must be enclosed inside a case designed to withstand the pressure developed (Pmax = 10 bar) due to a possible explosion inside the same and to prevent the spread of the flame outside the case and trigger the explosive atmosphere outside it. The philosophy of the method is based on the consideration that it is not possible to prevent a gas from spreading everywhere. Therefore it would be unthinkable to build electrical equipment contained in a watertight enclosure to the point of preventing the entry of gas. A slip ring case has been built so that the gas enters inside, but in the event of contact between it and the ignition source (arc or spark) the resulting explosion is contained inside and the burned gases escape through special joints, (flat and rotating joints) created between the various parts of the enclosure, designed in such a way that the flame, exiting it cools and only the combustion product arrives outside, by now cooled and unable to ignite the surrounding atmosphere. Main features The main feature of the POWER SLIP RING is the robustness of the construction which guarantees reliability over time. Reference standards: - EN 60079-1: 2014



3.0 IECEx SCHEME

The purpose of this document is to define the operating methods, resources and sequence of activities that ensure the compliance of the **SLIP RING SREX150** to the following requirements:

Ex db	IEC 60079-1:2016 Explosive atmospheres. Equipment protection by flameproof enclosures "d" IEC 60079-0 2018 Explosive atmospheres - Part 0: Equipment - General requirements
T5/T4 °C	Slip-ring temperature class of SREX150 (maximum surface temperature) suitable for the temperature class of the flammable substance T5=100 C° T4=135 C°
Gb	EPL Elecctric (Appliance) Protection Level
IECEx	IECEx System
(Tamb)	(-40+60C°)
Technical file	FT –IECEX506
QAR	IECEx QUAR IT/CES/QAR21.0003/00
CoC	

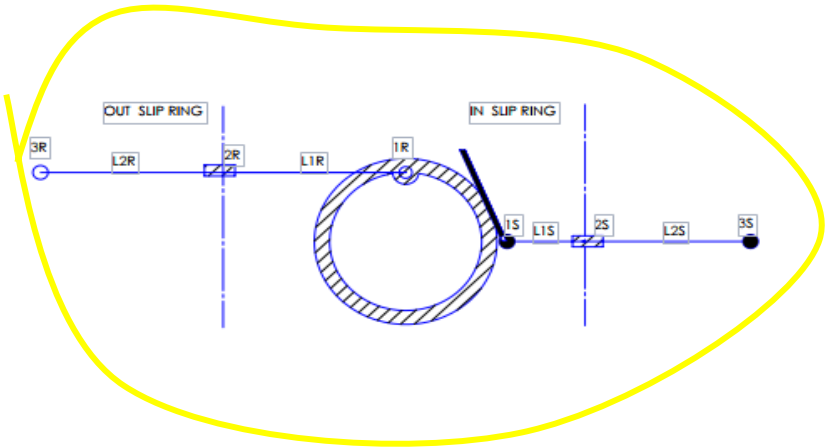
2.0 ATEX SCHEME

The purpose of this document is to define the operating methods, resources and sequence of activities that ensure the compliance of the **SLIP RING SREX150** to the following requirements:

II 2G **Ex db**	IEC 60079-1:2014 Explosive atmospheres. Equipment protection by flameproof enclosures "d" IEC 60079-0 2017 Explosive atmospheres - Part 0: Equipment - General requirements
T5/T4 °C	Slip-ring temperature class of SREX150 (maximum surface temperature) suitable for the temperature class of the flammable substance T5=100 C° T4=135 C°
Gb	EPL Elecctric (Appliance) Protection Level
	UE 2014/34/UE
(Tamb)	(-40+60C°)
Technical file	FT –SREX506-01
0722	CESI 20 ATEX 004 Q
EU TYPE	TUV CY 19 ATEX 0206265

2.0 ELECTRICAL CONTACT SLIP RING

The SREX506 power slip ring series are primarily designed for use in hazardous areas in sectors , offshore, oil & gas ect.
The leaf foil brush system is a particular brush that slides on a surface of a brass or bronze ring.
It has the function of transmitting power electricity, analog and digital signals from a fixed point (brush) to a rotating mobile one (ring) (input = ring / output = brush)



The main advantages of the system are:

1) Compactness and constructive simplicity;
2) Ease of maintenance;
3) Low electrical resistivity values (0.2 <R <6 mohm)
4) Good values of the characteristic impedance of the ring / brush system
5) Low friction value (Good ring / brush smoothness).
7) Low overheating at the contact point.
8) Low overtemperature values of the terminals in case of failure
9) Rapid cooling in case of failure at the contact point

SLIP RING SREX506 SERIES

Mechanical Data

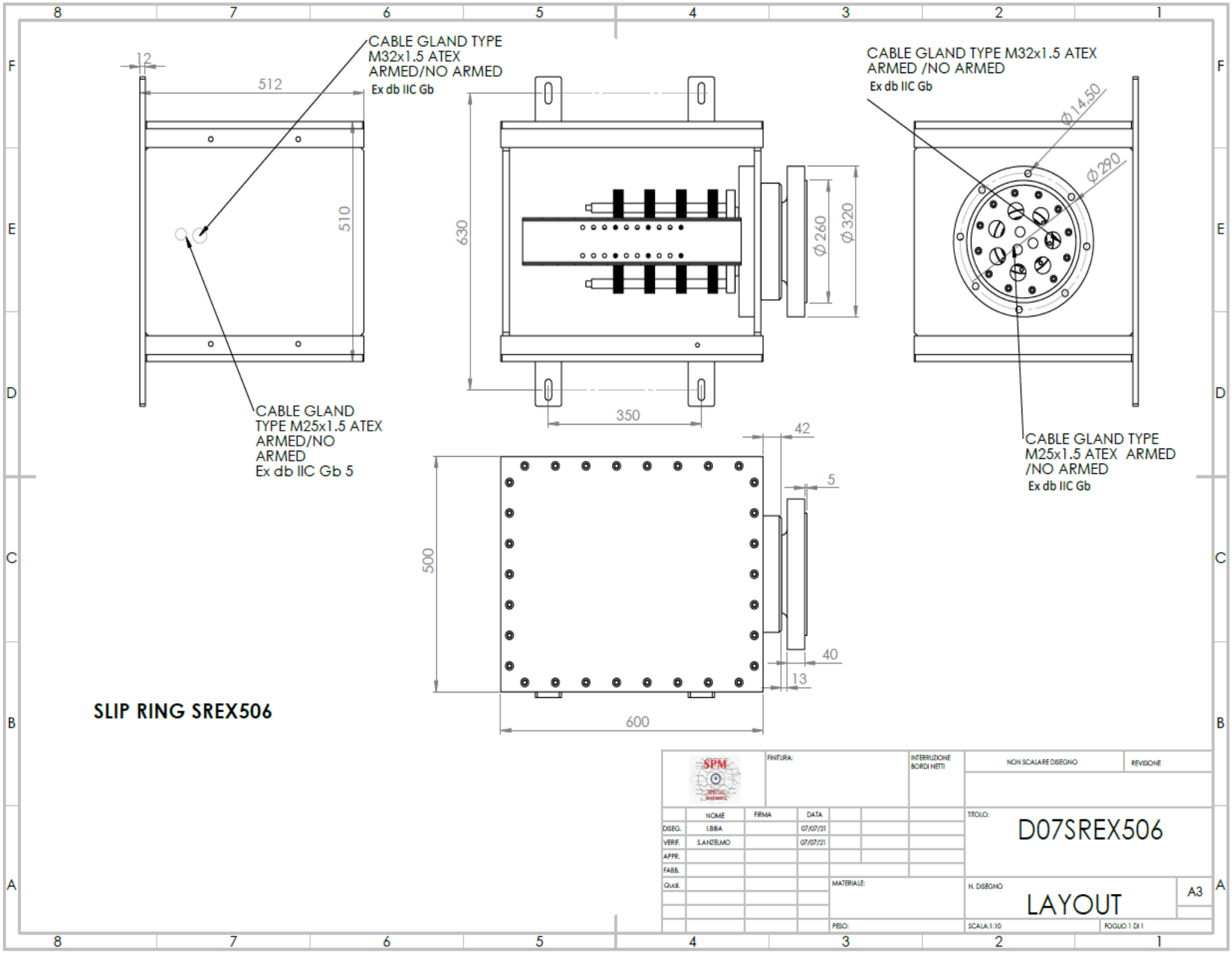
Parameter	Value
Enclosure type	EXPLOSION PROOF Ex db
Enclousure material	STEEL
Protetion	IP66
Working Temperature	;-40+60
Operating Humidity	0~85% RH
Rotating shaft on ball bearings	sealed and lubricated for life
Rotating Speed max	1~50 RPM
surface treatment	MECHANICAL ELEMENTS (zinc nickel (1000 hours of salt spray))
Torque	20N.m;- 50Nm/40 ring

Electrical Data

Parameter	Value		
	Power	Auxiliar	Signal
ring slip ring	bronze / nickel plated	bronze / nickel plated	bronze gold
brush slip ring	beryllium copper/nichel plated	beryllium copper/nichel plated	beryllium /copper gold
Rated Voltage	220/2500V	110/220V	<24Vdc
Rated current	In<638A	In<25A	In<2A
Insulation Resistance	1000V	500V	250V
Lead Wires	4-70mmq	0,75-2,5mmq	<0,5mmq
Electrical Noise	<1mΩ	<8mΩ	<5mΩ
Cable gland	stainless steel, nickel-plated brass Exd M20/M25/M32/M40		
armored / non-armored cable	cable type armored, PUR ,		
Conduit	Hose: 1/2" , 3/4", 1"1 1/2"		
slip ring attachment	FLANGE		

Directive & Standard

Directives	Directive 2014/34/UE IECEx Scheme
Standard	IEC 60079-1:2016 Explosive atmospheres. Equipment protection by flameproof enclosures "d" IEC 60079-0 2018 Explosive atmospheres - Part 0: Equipment - General requirements


CABLE GLAND TYPE
M32x1.5 ATEX
ARMED/NO ARMED
Ex db IIC Gb
12
512
510
CABLE GLAND
TYPE M25x1.5 ATEX
ARMED/NO
ARMED
Ex db IIC Gb 5
630
350
Ø 260
Ø 320
CABLE GLAND TYPE M32x1.5 ATEX
ARMED /NO ARMED
Ex db IIC Gb
Ø 14.50
Ø 290
CABLE GLAND TYPE
M25x1.5 ATEX ARMED
/NO ARMED
Ex db IIC Gb
42
5
500
40
13
600
SLIP RING SREX506
FINITURA:
INTERRUZIONE BORDI NETTI
NON SCALARE DISEGNO
REVISIONE
NOME
FIRMA
DATA
DISEG. LIBBA 07/07/21
VERIF. S.ANZELMO 07/07/21
APPR.
FABB.
Qual.
MATERIALE:
PESO:
TITOLO:
D07SREX506
N. DISEGNO
LAYOUT
A3
SCALA:1:10
FOGLIO 1 DI 1

3.0 SPECIAL CONDITIONS

It is possible to create special products with different types of users (see list)

Types of utilities
-number of power ways <600 A
-number of auxiliary ways <20A
-number of signals type:
-analog Signal
- digital Can bus.
- digital profibus.
- digital ethernet.
- digital profinet.

For more information call the sales office of
SPM special machine sales@spm-slipring.it

SPM SPECIAL MACHINE. Via Padana superiore 38 Interno 5 Inzago (milano) ITALY
(sales@spm-slipring.it)
www.spm-slipring.it