

	ertification So	LECTROTECHNICAL CO Cheme for Explosive Atm Is of the IECEx Scheme visit www.iecex.co	ospheres
Certificate No.:	IECEx BAS 14.0109	issue No.:0	Certificate history:
Status:	Current		
Date of Issue:	2014-11-27	Page 1 of 3	
Applicant:	T.E.L. Engineering Newby Road Hazel Grove Stockport Cheshire SK7 5DA United Kingdom	g Limited (Trading as Trolex Enginee	ring) UNCONTROLLED DOCUMENT THIS DOCUMENT IS NOT SUBJECT TO AMENDMENTS
			T.E.L. ENGINEERING LIMITED
Electrical Apparatus: Optional accessory:	Type TX4715, TX471	I6 and TX4717 Slip Ring Units	
Type of Protection:	Flameproof, Increas	ed safety, Protection by enclosure	
Marking:	Ex d e IIB T* Gb (T <sub>an</sub> Ex tb IIIC T*°C Db	<sub>nb</sub> - <sup>**°</sup> C to + <sup>**°</sup> C) (See description)	
Approved for issue on be Certification Body:	half of the IECEx	R S Sinclair	
Position:		General Manager	
Signature: (for printed version)		p Myouney mo	ILMEY
Date:		27/11/14	
	ransferable and remains	roduced in full. s the property of the issuing body. nay be verified by visiting the Official IECE:	x Website.
Rockhe S	Baseefa Limited ad Business Park Staden Lane Buxton Derbyshire SK17 9RZ ited Kingdom	SGS	Baseefa

	IECEx Ce of Confe			
Certificate No.:	IECEx BAS 14.0109			
Date of Issue:	2014-11-27	Issue No.: 0		
		Page 2 of 3		
Manufacturer:	<b>T.E.L. Engineering Limited (Trading</b> Newby Road Hazel Grove	g as Trolex Engineering)		
	Stockport Cheshire SK7 5DA <b>United Kingdom</b>	UNCONTROLLED DOCUMENT THIS DOCUMENT IS NOT SUBJECT TO AMENDMENTS		
		T.E.L. ENGINEERING LIMITED		
Additional Manufacturing l (s):	location			
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.				
	nd any acceptable variations to it specified in the second of the second	chedule of this certificate and the identified		
IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements			
IEC 60079-1 : 2007-04	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"			
Edition: 6 IEC 60079-31 : 2008	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'			
Edition: 1 IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment pro	tection by increased safety "e"		
This Certificate <b>does not</b> indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.				
TEST & ASSESSMENT R A sample(s) of the equipm	REPORTS: nent listed has successfully met the examination an	d test requirements as recorded in		
<u>Test Report:</u> GB/BAS/ExTR14.0212/00				
Quality Assessment Repo	<u>rt:</u>			
GB/BAS/QAR08.0003/04				

	IECEx Certificate of Conformity				
Certificate No.:	IECEx B	AS 14.0109			
Date of Issue:	2014-11	-27		Issue No.: <b>0</b> Page 3 of 3	
EQUIPMENT:		Schedu	e	UNCONTROLLED DOCUMENT THIS DOCUMENT IS NOT SUBJECT TO AMENDMENTS	
Equipment and systems cove	red by this certi	ficate are as follows	5	T.E.L. ENGINEERING LIMITED	
end cover with rolling element bearing at the other. Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover. The internal slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits. The TX4715, TX4716 and TX4717 are of similar construction and differ in the length of the flameproof enclosure, which allows a corresponding increase in the number of slip rings in the latter two variants. The TX4715 also has a smaller end bearing than the TX4716 and TX4717, with a reduction in diameter of the respective					
diametral flamepath. The optional variants of the T>	4715 are as the	table below:			
Unit Type	10 (10 (10 (10 (10 (10 (10 (10 (10 (10 (	ature Classification	**Ambient Temperature	Max Current	
TX4715	T5	T100°C	-40°C to +55°C		
TX47151,47152 & 47153 TX47154	T5 T5	T100°C	-40°C to +40°C		
TX4/154 TX4716	15 T5	T100°C T100°C	-40°C to +55°C -40°C to +45°C		

T135°C

T100°C

T135°C

T100°C

T4

T5

T4

T5

TX4716

TX4717

TX47174

TX4717BW

For further details see the Annex.

CONDITIONS OF CERTIFICATION: NO

-40°C to +50°C

-40°C to +45°C -40°C to +55°C -40°C to +50°C 810A

1166A

1166A

420A

### SGS Baseefa Limited Rockhead Business Park Staden lane, Buxton, Derbyshire SK17 9RZ United Kingdom



### ANNEX to IECEx BAS 14.0109

Issue No. 0

Date: 2014/11/27

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T.E.L. ENGINEERING LIMITED

The **Type TX4715**, **TX4716** and **TX 4717** Slip Ring Units comprise a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The internal slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits.

The TX4715, TX4716 and TX4717 are of similar construction and differ in the length of the flameproof enclosure, which allows a corresponding increase in the number of slip rings in the latter two variants.

The TX4715 also has a smaller end bearing than the TX4716 and TX4717, with a reduction in diameter of the respective diametral flamepath. The TX4715 also uses thinner materials for the flameproof enclosure, with the minimum thickness being 22mm as opposed to the 25mm of the TX4716 and TX4717 enclosure.

### <u>TX4715</u>

The Type TX4715 Slip Ring Unit's flameproof enclosure has a length of 465mm, incorporating a maximum of 55 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 22mm.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 928A.

There are several optional variants of the TX4715, including:

- An anti-condensation heater and alternative bearing arrangements (TX47151Units).
- Alternative larger increased safety terminal enclosures (TX47152 Units).
- A combination of both of the above (TX47153 Units).

\*\* Unit Type Max Current -40°C to +55°C TX4715 **T**5 T100°C 928A TX47151,47152 & 47153 T5 T100°C -40°C to +40°C 810A TX47154 **T**5 T100°C -40°C to +55°C 928A

### <u>TX4716</u>

The Type TX4716 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure of length 655mm, incorporating a maximum of 80 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 25mm. The TX4716 features an enlarged main bearing and an increase in diameter of the respective diametral flamepath over the TX4715, which are the same as the TX4717.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 1166A.

There is an optional variant of the TX4716 which features an increased ambient temperature range, with a change in the temperature classification to T4.

Unit Type		*	**	Max Current
TX4716	T5	T100°C	-40°C to +45°C	1166A
TX4716	T4	T135°C	-40°C to +50°C	810A

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### <u>TX4717</u>

The Type TX4717 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure of length 835mm, incorporating a maximum of 107 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 25mm. The TX4717 features an enlarged main bearing and an increase in diameter of the respective diametral flamepath over the TX4715, which are the same as the TX4716.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 1166A.

There are several optional variants of the TX4717, including:

- A reduced maximum total throughput of 420A with an increased ambient temperature range.
- A unit with an increased number of fasteners, with an associated IP rating of IPX7.

Unit Type		*	**	Max Current
TX4717	T5	T100°C	-40°C to +45°C	1166A
TX4717BW	T4	T135°C	-40°C to +55°C	1166A
TX47174	T5	T100°C	-40°C to +50°C	420A





	<b>Certification So</b>	LECTROTECHNICAL C cheme for Explosive A ils of the IECEx Scheme visit www.iece	tmos		
Certificate No.:	IECEx BAS 14.0109	e issue No.:1		icate history:	
Status:	Current			e No. 1 (2016-6-14) ue No. 0 (2014-11- 27)	
Date of Issue:	2016-06-14	Page 1 of 4			
Applicant:	T.E.L. Engineering Newby Road Hazel Grove Stockport Cheshire SK7 5DA United Kingdom	g Limited (Trading as Trolex Engi	neering)		
Equipment: Optional accessory:	Type TX4715, TX47′	16 and TX4717 Slip Ring Units			
Type of Protection:	Flameproof, Increas	sed safety, Protection by enclosure			
Marking:	Ex d e IIB T* Gb (T <sub>ar</sub> Ex tb IIIC T*°C Db	<sub>mb</sub> - <sup>**°</sup> C to + <sup>**°</sup> C) (See descriptio	'n)		
Approved for issue on I Certification Body:	behalf of the IECEx	R S Sinclair		UNCONTROLLED DO THIS DOCUMENT I SUBJECT TO AMEND	S NOT
Position:		Technical Manager	E	T.E.L. ENGINEERING L	IMITED
Signature: (for printed version) Date:		P Mrowney N 15/6/No	Non	Ð	
2. This certificate is not	chedule may only be rep transferable and remains enticity of this certificate r	roduced in full. s the property of the issuing body. nay be verified by visiting the Official II	ECEx Wel	osite.	
Rock	S Baseefa Limited nead Business Park Staden Lane Buxton Derbyshire SK17 9RZ nited Kingdom	SG;	S (	Baseefa	

	ECIECExIECEx Certificateof Conformity		
Certificate No.:	IECEx BAS 14.0109		
Date of Issue:	2016-06-14	Issue No.: 1	
		Page 2 of 4	
Manufacturer:	T.E.L. Engineering Limited Newby Road Hazel Grove Stockport Cheshire SK7 5DA United Kingdom	d (Trading as Trolex Engineering)	
Additional Manufacturing le (s):	ocation		
found to comply with the IE covered by this certificate,	C Standard list below and that the man was assessed and found to comply with	ative of production, was assessed and tested and ufacturer's quality system, relating to the Ex products the IECEx Quality system requirements. This Scheme Rules, IECEx 02 and Operational Documents	
STANDARDS: The electrical apparatus ar documents, was found to c	nd any acceptable variations to it specific comply with the following standards:	ed in the schedule of this certificate and the identified	
IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: Gen	eral requirements	
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equi	ipment protection by flameproof enclosures "d"	

IEC 60079-31 : 2008Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'Edition: 1IEC 60079-7 : 2006-07Explosive atmospheres - Part 7: Equipment protection by increased safety "e"Edition: 4Edition: 4

This Certificate **does not** indicate compliance with electrical 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: GB/BAS/ExTR14.0212/00

GB/BAS/ExTR16.0125/00

Quality Assessment Report:

GB/BAS/QAR08.0003/05

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Certificate No .:

IECEx BAS 14.0109

Date of Issue:

2016-06-14

Issue No.: 1

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Schedule

#### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type TX4715, TX4716 and TX 4717 Slip Ring Units comprise a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The internal slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits.

The TX4715, TX4716 and TX4717 are of similar construction and differ in the length of the flameproof enclosure, which allows a corresponding increase in the number of slip rings in the latter two variants.

The TX4715 also has a smaller end bearing than the TX4716 and TX4717, with a reduction in diameter of the respective diametral flamepath.

The optional variants of the TX4715 are as the table below:

Unit Type	*Temper	ature Classification	**Ambient Temperature	Max Current
TX4715	T5	T100°C	-40°C to +55°C	928A
TX47151,47152 & 47153	T5	T100°C	-40°C to +40°C	810A
TX47154	T5	T100°C	-40°C to +55°C	928A
TX4716	T5	T100°C	-40°C to +45°C	1166A
TX4716	T4	T135°C	-40°C to +50°C	810A
TX4717	T5	T100°C	-40°C to +45°C	1166A
TX4717BW	T4	T135°C	-40°C to +55°C	1166A
TX47174	T5	T100°C	-40°C to +50°C	420A

For further details see the Annex.

#### CONDITIONS OF CERTIFICATION: NO

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Certificate No.:	
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IECEx BAS 14.0109

Date of Issue:

2016-06-14

Issue No.: 1

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 1.1

To permit the addition of a new model, Type TX4716.14509, to the range.

ExTR: GB/BAS/ExTR16.0125.00

File Reference: 16/0224



T.E.L. ENGINEERING LIMITED

Annex: IECEx BAS 14.0109 Annex.pdf



## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BAS 14.0109		Issue No: 2	Certificate history:	
Status:	Current			Issue No. 2 (2019-06-28) Issue No. 1 (2016-06-14)	
Date of Issue:	2019-06-28		Page 1 of 4	Issue No. 0 (2014-11-27)	
Applicant:	T.E.L. Engineering Limited (Trading as T Unit 2 Levens Road Newby Road Industrial Estate Hazel Grove Stockport Cheshire SK7 5DL United Kingdom	Frolex Engineering)			
Equipment: <i>Optional accessory:</i>	Type TX4715, TX4716 and TX4717 Slip	Ring Units			
Type of Protection:	Flameproof, Increased safety, Protection	by enclosure			
Marking:	Ex d e IIB T* Gb (T <sub>amb</sub> - <sup>**°</sup> C to + <sup>**°</sup> C) Ex tb III C T*°C Db	(See description)			
Approved for issue or Certification Body:	n behalf of the IECEx	R S Sinclair	D BREARLEY Certification Manager		
Position:		Technical Manager			
Signature: (for printed version) Date:		PD I 281	Benlig 6/19		
<ol> <li>This certificate and schedule may only be reproduced in full.</li> <li>This certificate is not transferable and remains the property of the issuing body.</li> <li>The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.</li> </ol>					
Certificate issued by:	SGS Baseefa Limited				
В	Rockhead Business Park Staden Lane uxton, Derbyshire, SK17 9RZ United Kingdom	SG	S Ba	seefa	
			THI	NTROLLED DOCUMENT S DOCUMENT IS NOT	



Certificate No:	IECEx BAS 14.0109	Issue No: 2
Date of Issue:	2019-06-28	Page 2 of 4
Manufacturer:	T.E.L. Engineering Limited (Trading as Trolex Engineering	)
	Unit 2 Levens Road	
	Newby Road Industrial Estate	
	Hazel Grove	
	Stockport	
	Cheshire	
	SK7 5DL	
	United Kingdom	

Additional Manufacturing location(s):

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 apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate does not indicate compliance with electrical 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:

GB/BAS/ExTR14.0212/00

GB/BAS/ExTR16.0125/00

Quality Assessment Report:

GB/BAS/QAR08.0003/07

## UNCONTROLLED DOCUMENT THIS DOCUMENT IS NOT SUBJECT TO AMENDMENTS



Certificate No:

IECEx BAS 14.0109

Issue No: 2

Date of Issue:

2019-06-28

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type TX4715, TX4716 and TX 4717 Slip Ring Units comprise a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The internal slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits.

The TX4715, TX4716 and TX4717 are of similar construction and differ in the length of the flameproof enclosure, which allows a corresponding increase in the number of slip rings in the latter two variants.

The TX4715 also has a smaller end bearing than the TX4716 and TX4717, with a reduction in diameter of the respective diametral flamepath.

The optional variants of the TX4715 are as the table below:

Unit Type	*Temperature Classification		**Ambient Temperature	Max Current
TX4715	Т5	T100°C	-40°C to +55°C	928A
TX47151,47152 & 47153	Т5	T100°C	-40°C to +40°C	810A
TX47154	Т5	T100°C	-40°C to +55°C	928A
TX4716	Т5	T100°C	-40°C to +45°C	1166A
TX4716	Т4	T135°C	-40°C to +50°C	810A
TX4717	Т5	T100°C	-40°C to +45°C	1166A
TX4717BW	Τ4	T135°C	-40°C to +55°C	1166A
TX47174	Т5	T100°C	-40°C to +50°C	420A

For further details see the Annex.

SPECIFIC CONDITIONS OF USE: NO

UNCONTROLLED DOCUMENT THIS DOCUMENT IS NOT SUBJECT TO AMENDMENTS



Certificate No:

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 2.1

This document permits existing information (for example on Schedule Drawings) to be replaced by the revised certificate holders address. No other changes may be made to the certified design.

File Reference: 19/0369

Annex:

IECEx BAS 14.0109 Annex.pdf



SGS Baseefa Limited Rockhead Business Park Staden lane, Buxton, Derbyshire SK17 9RZ United Kingdom



ANNEX to IECEx BAS 14.0109

Issue No. 0

Date: 2014/11/27

The **Type TX4715, TX4716 and TX 4717 Slip Ring Units** comprise a fabricated mild steel or stainless steel flameproof enclosure, incorporating slip rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The internal slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits.

The TX4715, TX4716 and TX4717 are of similar construction and differ in the length of the flameproof enclosure, which allows a corresponding increase in the number of slip rings in the latter two variants.

The TX4715 also has a smaller end bearing than the TX4716 and TX4717, with a reduction in diameter of the respective diametral flamepath. The TX4715 also uses thinner materials for the flameproof enclosure, with the minimum thickness being 22mm as opposed to the 25mm of the TX4716 and TX4717 enclosure.

#### <u>TX4715</u>

The Type TX4715 Slip Ring Unit's flameproof enclosure has a length of 465mm, incorporating a maximum of 55 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 22mm.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 928A.

There are several optional variants of the TX4715, including:

- An anti-condensation heater and alternative bearing arrangements (TX47151Units).
- Alternative larger increased safety terminal enclosures (TX47152 Units).
- A combination of both of the above (TX47153 Units).

Unit Type	*		**	Max Current
TX4715	T5	T100℃	-40 ℃ to +55 ℃	928A
TX47151,47152 & 47153	T5	T100 <i>°</i> C	-40 ℃ to +40 ℃	810A
TX47154	T5	T100℃	-40 ℃ to +55 ℃	928A

#### <u>TX4716</u>

The Type TX4716 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure of length 655mm, incorporating a maximum of 80 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 25mm. The TX4716 features an enlarged main bearing and an increase in diameter of the respective diametral flamepath over the TX4715, which are the same as the TX4717.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 1166A.

There is an optional variant of the TX4716 which features an increased ambient temperature range, with a change in the temperature classification to T4.

Unit Type		*	**	Max Current
TX4716	T5	T100℃	-40 ℃ to +45 ℃	1166A
TX4716	T4	T135℃	-40℃ to +50℃	810A

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### <u>TX4717</u>

The Type TX4717 Slip Ring Unit comprises a fabricated mild steel or stainless steel flameproof enclosure of length 835mm, incorporating a maximum of 107 signal rings and associated brush gear. The enclosure has a flange or foot at one end and a rotating end cover with rolling element bearing at the other. The materials forming the enclosure have a minimum thickness of 25mm. The TX4717 features an enlarged main bearing and an increase in diameter of the respective diametral flamepath over the TX4715, which are the same as the TX4716.

Two increased safety junction boxes are attached to the main flameproof enclosure, housing increased safety terminals for external connections. One increased safety junction box is attached to the fixed flameproof enclosure; the other is attached to the revolving end cover.

The slip rings are individually rated up to 770V, 100A and may be used for power, signal and intrinsically safe circuits, with a maximum total throughput of 1166A.

There are several optional variants of the TX4717, including:

- A reduced maximum total throughput of 420A with an increased ambient temperature range.
  - A unit with an increased number of fasteners, with an associated IP rating of IPX7.

Unit Type	*		**	Max Current
TX4717	T5	T100℃	-40 ℃ to +45 ℃	1166A
TX4717BW	T4	T135℃	-40 ℃ to +55 ℃	1166A
TX47174	T5	T100℃	-40 ℃ to +50 ℃	420A