



Pars Electrical Transmission Equipment Co.

PARS ARRESTER



PAS SERIES

Isolating Spark Gap

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PARS ARRESTER



Surge protection
 Isolating spark gap for lightning protection
 and equipotential bonding

The PAS Isolating Spark Gap

Protects insulating angles against damage caused by surge voltages. Voltage spikes occurring as result of

- lightning strikes
- Residual electricity due to uid motion
- Absorption of induced waves of HV line
- Cathodic protection systems

can damage ange insulation, in some cases beyond repair.



PAS Design

The main Idea for this model is a kind of surge arrester that can work in explosive areas. PAS model is designed for highest indirect lightning and also for highest direct lightning.

This product is offered in two types, Ex type (PAS2) and Safe Type (PAS1).

Isolating Spark Gap (ISG) of PARS Arrester

Lightning Impulse Current (10/350 μ s)	Limp	up to 100 kA
Nominal Discharge Current (8/20 μ s)	In	up to 100 kA
Max. Continuous operation voltage at 50/60 Hz	Uc	Up to 1500 v
Response Time		< 100 nS
DC Spark-over Voltage		> 600 V
Front of Wave Spark-over Voltage at 1.2/50 μ s, 6kV		< 1500 V
Max Tightening Torque for Connection		8 Nm

INTRODUCTION OF Isolating Spark Gap

The spark gap insulating (ISG) design is based on successful experience from 1991 in wide range of surge arresters in low voltage up to high voltage. In some special cases we need to use a product with difference isolating body for high risk areas like oil industrial or rail Industrial.



ISG Coding : PAS1 - V* - BX** - N**

	V* - BX** - N**
Lightning impulse current (10/350 μ s) (Iimp)	up to 25 kA
Class of lightning current carrying capability acc. to IEC 62516-3	3L, 2L
Nominal discharge current (8/20 μ s) (In)	up to 25 kA
DC Spark-over Voltage	100v up to 1500v
Operating temperature range	-30°C...+60°C
Degree of protection	IP 67

ISG Coding: PAS* - V* - BX99 - N**

	V5 - BX99 - N10	V6 - BX99 - N10	V5 - BX99 - N10	V6 - BX99 - N10
Lightning impulse current (10/350 μ s) (Iimp)	100 kA	100 kA	100 kA	100 kA
Class of lightning current carrying capability acc. to IEC 62516-3	H	H	H	H
Nominal discharge current (8/20 μ s) (In)	100 kA	100 kA	120 kA	120 kA
Max. Continuous operation voltage at 50/60 Hz (Uc)	230 V	255 V	230 V	255 V
DC Spark-over Voltage	> 500 V	> 600 V	> 500 V	> 600 V
Front of Wave Spark-overVoltageat 1.2/50 μ s	< 1250 V	< 1450 V	< 1250 V	< 1450 V
Follow Current at 50/60 Hz	< 100 A	< 100 A	< 100 A	< 100 A
Operating temperature range	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C
Degree of protection	IP 67	IP 67	IP 67	IP 67
ATEX approvals (For PAS2 Type)	IMQ19ATEX013X	IMQ19ATEX013X		
Ex marking according to EN 60079-0 and EN 60079-1: gas (For PAS2 Type)	Ex db IIC T6 Gb	Ex db IIC T6 Gb		

ISG Coding: PAS* - V* - BX50 - N**

	V5 - BX50 - N10	V6 - BX50 - N10	V5 - BX50 - N05	V6 - BX50 - N05
Lightning impulse current (10/350 μ s) (Iimp)	50 kA	50 kA	50 kA	50 kA
Class of lightning current carrying capability acc. to IEC 62516-3	N	N	N	N
Nominal discharge current (8/20 μ s) (In)	100 kA	100 kA	50 kA	50 kA
Max. Continuous operation voltage at 50/60 Hz (Uc)	230 V	255 V	230 V	255 V
DC Spark-over Voltage	> 500 V	> 600 V	> 500 V	> 600 V
Front of Wave Spark-overVoltageat 1.2/50 μ s	< 1200 V	< 1400 V	< 1200 V	< 1400 V
Follow Current at 50/60 Hz	< 100 A	< 100 A	< 100 A	< 100 A
Operating temperature range	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C
Degree of protection	IP 67	IP 67	IP 67	IP 67
ATEX approvals (For PAS2 Type)	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X
Ex marking according to EN 60079-0 and EN 60079-1: gas (For PAS2 Type)	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb



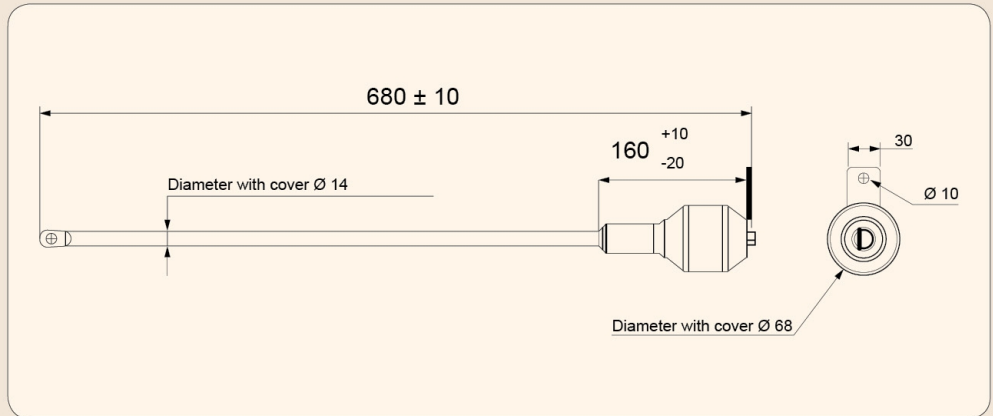
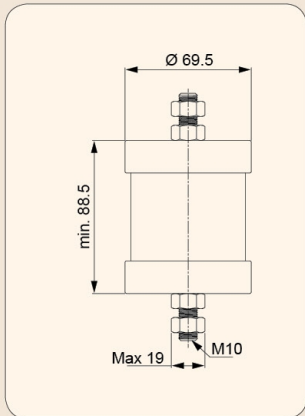
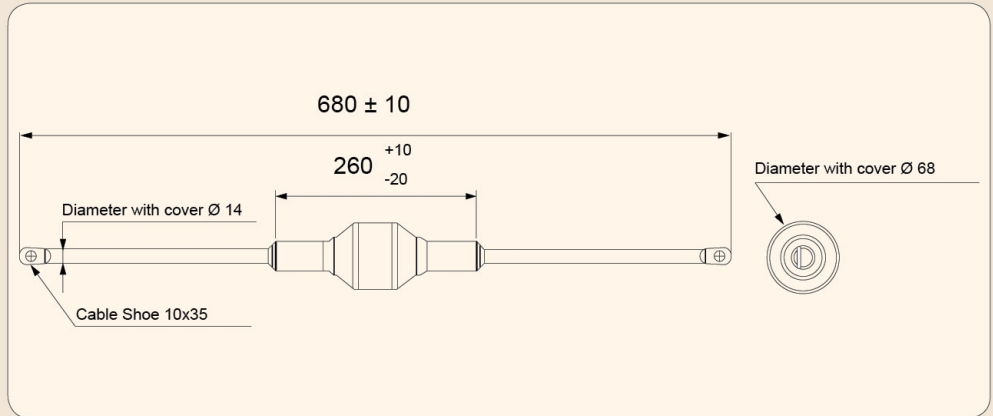
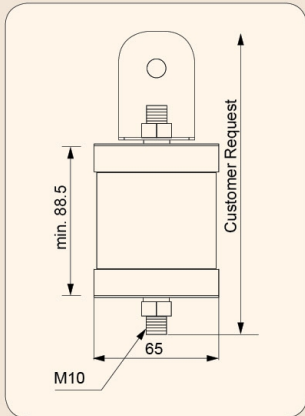
ISG Coding: PAS* - V* - BX25 - N**

	V5 - BX25 - N05	V6 - BX25 - N05	V5 - BX25 - N03	V6 - BX25 - N03
Lightning impulse current (10/350 µs) (Iimp)	25 kA	25 kA	25 kA	25 kA
Class of lightning current carrying capability acc. to IEC 62516-3	1L	1L	1L	1L
Nominal discharge current (8/20 µs) (In)	50 kA	50 kA	30 kA	30 kA
Max. Continuous operation voltage at 50/60 Hz (Uc)	230 V	255 V	230 V	255 V
DC Spark-over Voltage	> 500 V	> 600 V	> 500 V	> 600 V
Front of Wave Spark-over Voltage at 1.2/50 µs	< 1150 V	< 1350 V	< 1150 V	< 1350 V
Follow Current at 50/60 Hz	< 100 A	< 100 A	< 100 A	< 100 A
Operating temperature range	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C
Degree of protection	IP 67	IP 67	IP 67	IP 67
ATEX approvals (For PAS2 Type)	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X
Ex marking according to EN 60079-0 and EN 60079-1: gas (For PAS2 Type)	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb

ISG Coding: PAS* - V* - BX** - N**

	V5 - BX10 - N02	V6 - BX10 - N02	V5 - BX05 - N01	V6 - BX05 - N01
Lightning impulse current (10/350 µs) (Iimp)	10 kA	10 kA	5 kA	5 kA
Class of lightning current carrying capability acc. to IEC 62516-3	2L	2L	3L	3L
Nominal discharge current (8/20 µs) (In)	20 kA	20 kA	10 kA	10 kA
Max. Continuous operation voltage at 50/60 Hz (Uc)	230 V	255 V	230 V	255 V
DC Spark-over Voltage	> 500 V	> 600 V	> 500 V	> 600 V
Front of Wave Spark-over Voltage at 1.2/50 µs	< 1100 V	< 1300 V	< 1100 V	< 1300 V
Follow Current at 50/60 Hz	< 100 A	< 100 A	< 100 A	< 100 A
Operating temperature range	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C	-30°C...+60°C
Degree of protection	IP 67	IP 67	IP 67	IP 67
ATEX approvals (For PAS2 Type)	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X	IMQ19ATEX013X
Ex marking according to EN 60079-0 and EN 60079-1: gas (For PAS2 Type)	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb	Ex db IIC T6 Gb

Technical Information of PAS

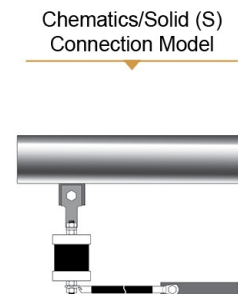
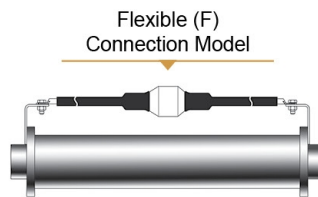
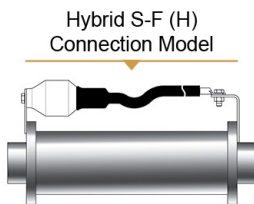


Installation of PAS series

Identification Of PARS Explosion Proof Surge Arrester (ISG)

PA	S	2	V5	BX99		N10	S-F	
PARS ARRESTER	(ISG) Isolating Spark Gap Type	Arrester Type		DC Breakdown Voltage (x100) V	Energy Class Iimp (kA)		Installation and connections	
		1	Safe Type		BX99	H	S	Solid
					BX50	N		
		2	Ex Type		BX25 (I) IEC 61643	1L	F	Flexible
					BX10 (I) IEC 61643	2L		
BX5 (I)	3L							
				Nominal Discharge Current (x10) kA	S-F (H)		Solid-Flex. (Hybrid)	

Note : Ex type is Red & Black shell and Safe type is Black shell





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