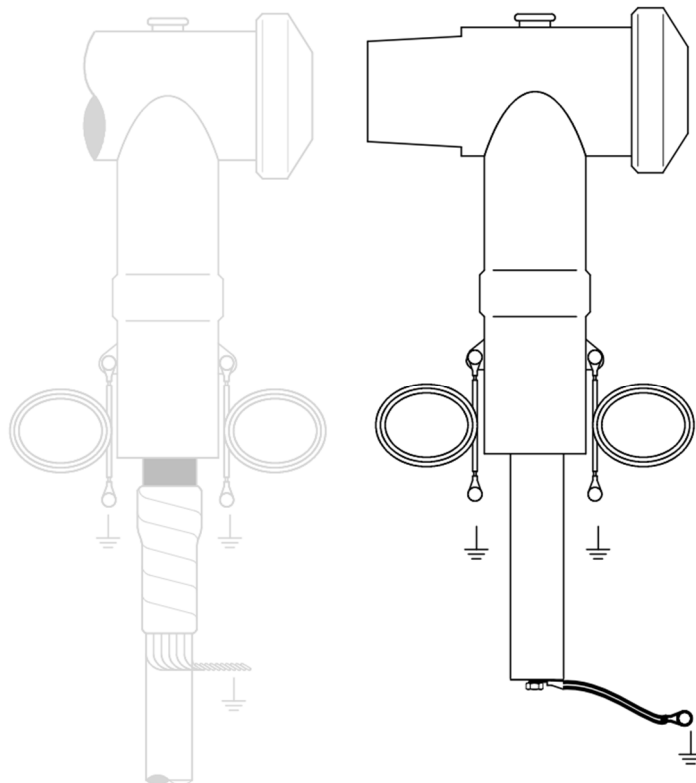




Surge Arrester TDA-72.5/196

Rated Voltage 72,5kV, Bushing Type F

Designed for Separable Connectors EE-72-XB1 - Series



1. Product Description

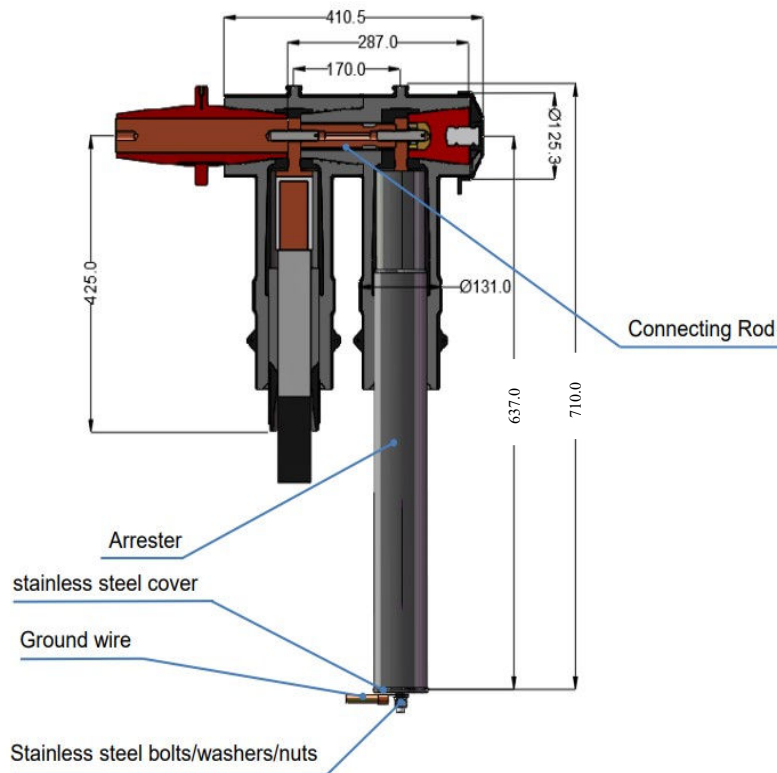
The screened Separable Surge Arrester TDA-72.5/196 is designed to protect accessories and equipment from high voltage surges resulting from lightning or switching.

TDA-72.5/196 is intended to be installed on Separable Connector from EE-72-XB1 - Series.

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Reference: 78-9237-7932-2#A
Supersedes: n/a

Issue date 22.Jan 2025
Issue date n/a



36/66(72.5)kV Screened Separable Surge Arrester

2. Applications

2.1 Basic characteristics

Maximum system voltage (U_m) : 72.5kV

Continuous operating voltage (U_c) : 60kV

Nominal discharge current (I_n) : 10kA

Residual voltage of lightning impulse current : ≤ 196 kV

2.2 Bushing Type

Type F acc. EN 50673

Rear-T Plug

3. Typical Properties

3.1 Performance Tests

Meets International standard specifications of IEC 60099.4-2014 (GB/T11032-2020)

Test Reports available on request.

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No	Test Items		Requirements	Results
1	DC 1mA reference voltage		$103\text{kV} \leq U_{1\text{mADC}} \leq 114\text{kV}$	109.3kV
2	Leakage current under $0.75U_{1\text{mADC}}$		$I_L(0.75 U_{1\text{mADC}}) \leq 50\mu\text{A}$	8 μA
3	Continuous current test		Total current $I_X \leq 800\mu\text{A}$ Resistive current $I_R \leq 260\mu\text{A}$	$I_X = 588\mu\text{A}$ $I_R = 237\mu\text{A}$
4	AC reference voltage		$U_{1\text{mAAC}} \geq 72.5\text{kV}_P / \sqrt{2}$	$80.79\text{kV}_P / \sqrt{2}$
5	Partial discharge		$1.05UC_T$, $PD \leq 10\text{pC}$	$PD = 1.9\text{pC}$
6	Insulation withstand test		AC withstand level $140\text{kV}_{\text{rms}}$ Lightning impulse level 260kV_P	AC : $140.2\text{kV}_{\text{rms}}$, 60s Lightning impulse : $260.5\text{kV}_P \sim 261.7\text{kV}_P$, Positive and negative 15 times each
7	Residual voltage test	Lightning impulse	$\leq 196.0\text{kV}_P$	191.0kV_P
		Switching impulse	$\leq 183.0\text{kV}_P$	154.8kV_P
		Steep impulse	$\leq 225.0\text{kV}_P$	201.2kV_P
8	Repetitive charge transfer withstand test		$Q_{rs} = 1.2\text{C}$	$1.1Q_{rs} : 1.321\text{C} \sim 1.340\text{C}$
9	Test to verify long term stability under continuous operating voltage		115°C , 1000h	$P_{\text{max}} \leq 1.3P_{\text{min}}$, $P_{\text{all max}} \leq 1.1P_{\text{start}}$
10	Heat dissipation behavior verification test		The test section is for all instants during the cooling period have a temperature higher than the complete arrester	Fulfilled the requirements. See detailed results below. The starting temperature of the operating load is 85°C
11	Operating duty test		Long duration current impulse 2 time. Rated thermal energy injection $W_{th} \geq 4.0\text{kJ/kV}$	$W_{th} \geq 4.08\text{kJ/kV}$ The residual voltage change ratio is between $+0.73\% \sim +1.23\%$
12	Power-frequency voltage-versus-time characteristics		Supply the power-frequency voltage-versus-time characteristics for the range of voltage $1.20U_i \sim 1.00U_i$, the range of time from 0.1s~1200s for with prior duty. $1.20U_i$, withstand 1.1second, $1.05U_i$, withstand 1200 second for without prior duty	With prior duty test : $1.20U_i$, 0.1s $1.15U_i$, 1.1s $1.10U_i$, 10.1s $1.00U_i$, 1200s The residual voltage change ratio: $+0.73\% \sim +1.71\%$
				Without prior duty test : $1.20U_i$, 1.10s $1.00U_i$, 1200s The residual voltage changing ratio: $-0.12\% \sim +0.24\%$
13	Test to verify the dielectric withstand of the internal components of arrester		1 time $100\text{kA } 4/10\mu\text{s}$	97.2kA , no puncture, no flashover, no crack, no damage
14	Short circuit test		600A , 1.0s	0.6163kA , 1.03s
			6kA , 0.2s	6.1kA , 0.2393s
			12kA , 0.2s	12.1kA , 0.2384s
			31.5kA , 0.2s	32.5kA , 0.2017s

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4. User Information

4.1 Agency Approvals and Self Certifications

- For RoHS information, please visit www.3M.com/RoHS

4.2 Shelf Life and Storage

The TDA-72.5/196 Surge Arrester for Separable Connectors has a shelf life of 36 months from date of manufacture stated on the label, when stored in a humidity-controlled storage (-20°C up to 50°C and < 70% rel. humidity).

Storage at room temperature is recommended.

Additional Information

To request additional product information, see address below.

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