

# TE's BOWTHORPE EMP HIGH VOLTAGE SURGE ARRESTERS

## TECHNICAL SPECIFICATIONS

### PCA RANGE - PCA3E102



#### General Information

Metal oxide arrester (ZnO)  
 Polymeric Housing  
 Hydrophobic silicone housing for long-term outdoor use  
 Nominal discharge current: 10 kA  
 Designation class: SM  
 High current impulse 4/10  $\mu$ s: 100 kA  
 Single impulse withstand rating: 2.2 C  
 Energy Capability (Wth): 7.8 kJ/kV at Ur (Thermal)  
 IEC 60099-4:2014

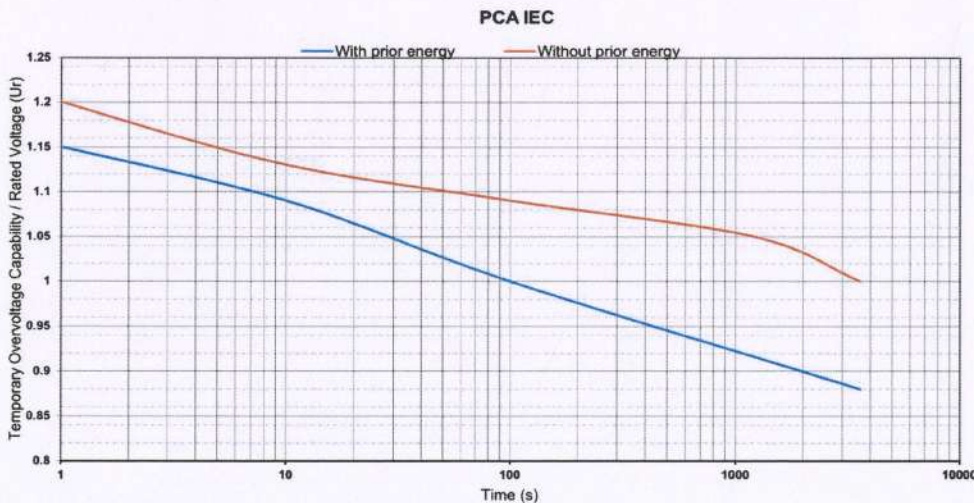
#### Surge Arrester Characteristics

Maximum System Voltage:	Us:	123 kV
Rated Voltage	Ur:	102 kV
Continuous Operating Voltage	Uc:	81.6 kV
TOV Capability (with prior energy)		117.3 kV for 1s 111.1 kV for 10s
Rated Short Circuit Current	Isc:	65 kA
Cantilever Load		
Safe Long-Term Load	SLL:	2.0 kNm
Safe Short-Term Load	SSL:	2.5 kNm
Dry Impulse Voltage - 1,2/50 $\mu$ s		672 kV
Wet Power Frequency Voltage		358 kV
Flashover Distance		1113 mm
Creepage Length		4500 mm
Minimum distance between phase centers		990 mm
Minimum distance between phase to earth		630 mm
Height (core only - accessories not included)		1076 mm
Approx. Weight		27.5 kg

#### Maximum Residual Voltages

Lightning current impulse 8/20 $\mu$ s				Steep lightning current impulse 1/20 $\mu$ s		Switching current impulse 30/60 $\mu$ s				
5 kA	10 kA	20 kA	40 kA	10 kA	20 kA	125 A	250 A	500 A	1000 A	2000 A
233 kV	245 kV	264 kV	294 kV	257 kV	276 kV	191 kV	196 kV	201 kV	208 kV	216 kV

#### Power Frequency Voltage versus Time



#### Marking

Isc:65 kA  
 In:10 kA  
 PCA3E102  
 IEC 60099-4:2014  
 Manufacturing Year  
 Ur:102kV  
 Uc:81.6kV  
 Designation class: SM  
 Serial No  
 7.8 kJ/kV-Ur

\* The image on this datasheet is a reference, for proper dimensional information please refer to technical sales drawing.  
 For data not shown on this datasheet or questions related to special applications, please contact TE for further assistance.

Learn more: [TE.com/energy](https://www.te.com/energy)

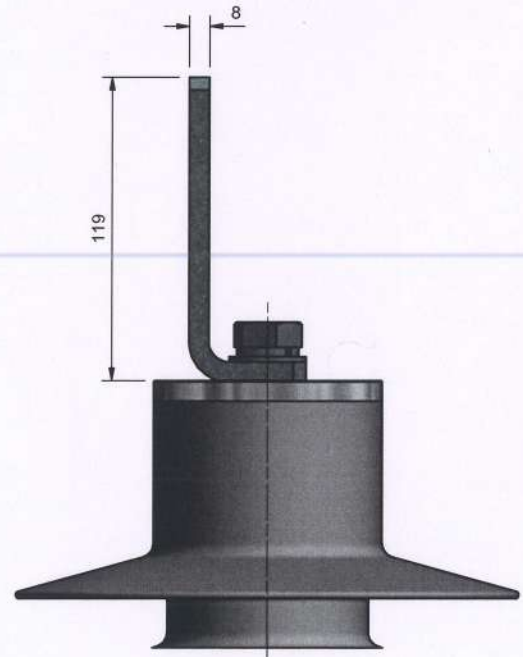
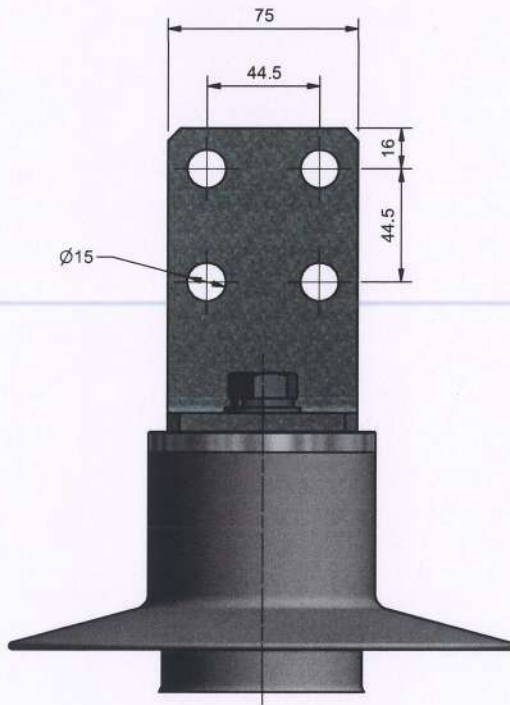
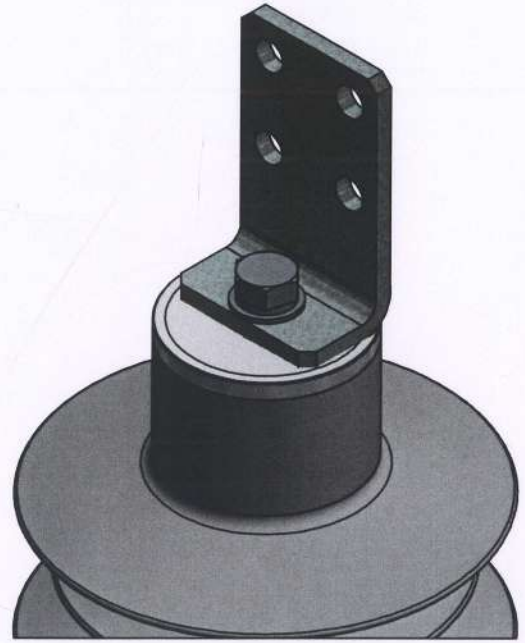
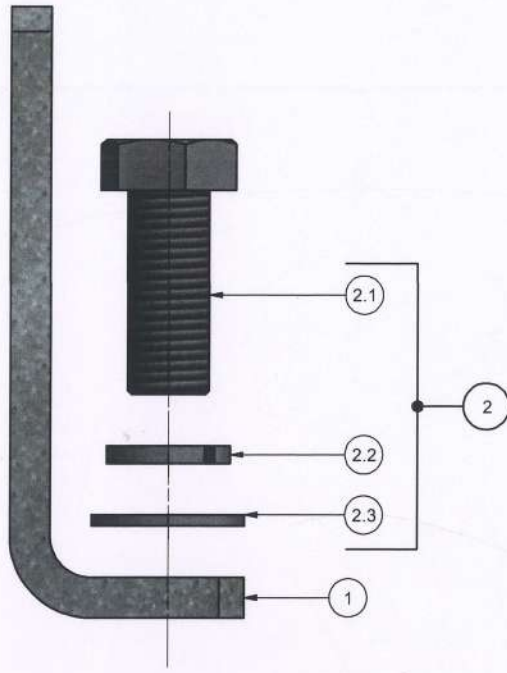
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**ENERGY / TE's BOWTHORPE EMP HIGH VOLTAGE SURGE ARRESTER**

USED ON



Parts List

ITEM	QTY	DESCRIPTION	MATERIAL
1	1	L21 NEMA SG1 PAD	GALVANIZED STEEL
2	1	L0 P-TERM M16	STAINLESS STEEL A2
2.1	1	SCREW M16x40 ST-STL	STAINLESS STEEL A2
2.2	1	WASHER SPG M16 ST-STL	STAINLESS STEEL A2
2.3	1	WASHER FLAT M16 ST-STL	STAINLESS STEEL A2

ALL DIMENSIONS NOMINAL  
UNLESS SPECIFIED

DIMENSIONS:  
mm [INCHES]



ANGLES ±

SURFACE TEXTURE

TOLERANCES UNLESS  
OTHERWISE  
SPECIFIED:

- 0 PL ±
- 1 PL ±
- 2 PL ±
- 3 PL ±
- 4 PL ±



DWN  
C. KWOK 23/08/2016

CHK  
C. KWOK 23/08/2016

APVD  
C. FRY 23/08/2016

NAME

PART NO

MATERIAL  
SEE PARTS LIST

FINISH  
N/A



TE Connectivity Ltd,  
Energy Division,  
Brighton, England.

L21 P-TERM M16 GENERAL

SCALE  
NTS

SIZE  
A3

DRAWING NO  
BOW-28-150

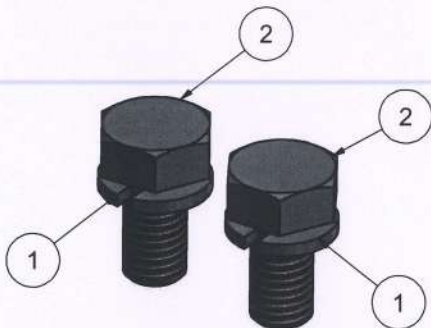
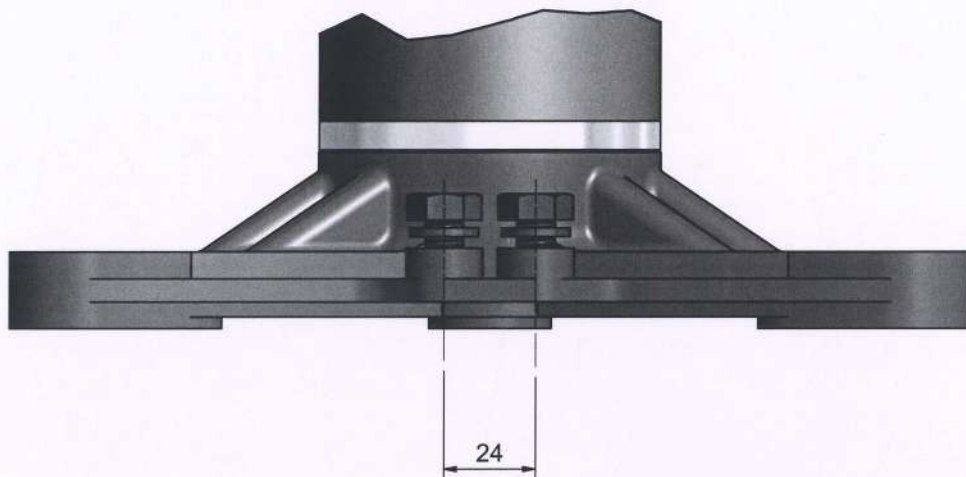
SHEET  
1 OF 1

REV  
B

USED ON

DWG No.  
BOW-28-019

THIS DRAWING IS A CONTROLLED DOCUMENT



Parts List			
ITEM	QTY	DESCRIPTION	MATERIAL
1	2	WASHER SPG M10 ST-STL	Stainless Steel A2
2	2	SCREW M10x20 ST-STL	Stainless Steel A2

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LOC  
DIST

**DIMENSIONS:**  
mm [INCHES]

**TOLERANCES UNLESS OTHERWISE SPECIFIED:**

0 PL	±
1 PL	±
2 PL	±
3 PL	±
4 PL	±

**ANGLES ±**

**SURFACE TEXTURE**

DWN R.Martin		09/02/2012		PART NO	
CHK		MATERIAL SEE NOTE		HEAT TREAT N/A	
APVD R.Martin		09/02/2012		TE Connectivity, Brighton, England.	
NAME E1 PCA-PBA M10x20 SCREWS					
SCALE NTS	SIZE A3	DRAWING NO BOW-28-019		SHEET 1 OF 1	REV B

8 7 6 5 4 3 2 1