

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Pluggable surge protective device, in accordance with Type 2/Class II, for DC power sources with linear operating characteristics, with remote indication contact.

## Your advantages

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- More space in the control cabinet due to the narrow overall width of just 12 mm per position
- Extremely narrow design, just 12 mm per position
- Varistor arrester with a low leakage current

## Commercial data

Item number	2907875
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL01
Product key	CL1353
Catalog page	Page 58 (C-4-2019)
GTIN	4055626245003
Weight per piece (including packing)	231.2 g
Weight per piece (excluding packing)	226.6 g
Customs tariff number	85363090
Country of origin	DE

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## Technical data

### Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Product family	SEC Family
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Electrical properties

Nominal voltage $U_N$	200 V DC ... 220 V DC
-----------------------	-----------------------

### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC (Altitude $\leq$ 2000 m amsl)
	5 V AC ... 150 V AC (Altitude > 2000 m amsl)
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A DC (30 V DC)

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section flexible	2.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section rigid	2.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross section AWG	12 ... 4
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

### Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester

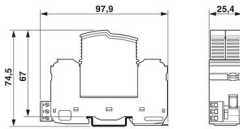


2907875

<https://www.phoenixcontact.com/us/products/2907875>

Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

## Dimensions

Dimensional drawing	
Width	25.4 mm
Height	97.9 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1.4 Div.

## Material specifications

Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA6.6-FR 20% GF PBT-FR
Material group	I
Housing material	PA 6.6-FR 20 % GF PBT-FR

## Protective circuit

Mode of protection	(DC+) - (DC-) (DC+/DC-) - PE
Direction of action	(DC+/DC-) - PE
Nominal voltage $U_N$	200 V DC ... 220 V DC
Maximum continuous voltage $U_C$	250 V DC
Rated load current $I_L$	40 A (Biconnect M4 fork-type cable lug 6 mm <sup>2</sup> ) 63 A (TWIN ferrule 2 x 10 mm <sup>2</sup> )
Residual current $I_{PE}$	≤ 10 µA DC
Nominal discharge current $I_n$ (8/20) µs	20 kA
Maximum discharge current $I_{max}$ (8/20) µs	40 kA
Impulse discharge current (10/350) µs, charge	0.5 As
Impulse discharge current (10/350) µs, specific energy	0.25 kJ/Ω
Impulse discharge current (10/350) µs, peak value $I_{imp}$	1 kA
Total discharge current $I_{total}$ (8/20) µs	40 kA
Short-circuit current rating $I_{SCCR}$	0.2 kA (without backup fuse) 6 kA (for 20 A gG/B backup fuse)
Voltage protection level $U_p$ (DC+) - (DC-)	≤ 3 kV
Voltage protection level $U_p$ (DC+/DC-) - PE	≤ 1.5 kV
TOV behavior at $U_T$	320 V DC (5 s / withstand mode)

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

Response time $t_A$	$\leq 25$ ns
Max. backup fuse with V-type through wiring	20 A (gG / B at $I_{SCCR} > 200$ A)
Max. backup fuse with branch wiring	20 A (gG / B at $I_{SCCR} > 200$ A)

## Additional technical data

Maximum continuous voltage $U_C$	264 V AC (for operation in safety lighting systems)
----------------------------------	---

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 6000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

Nominal discharge current $I_n$	20 kA
Mode of protection	(DC+) - (DC-)
	(DC+) - G
	(DC-) - G
Nominal voltage	220 V DC
Power distribution system	DC
SPD Type	4CA

### UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

### UL connection data

Tightening torque	30 lb <sub>f</sub> -in.
Conductor cross section AWG	10 ... 2

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

### EN 61643-11

Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester

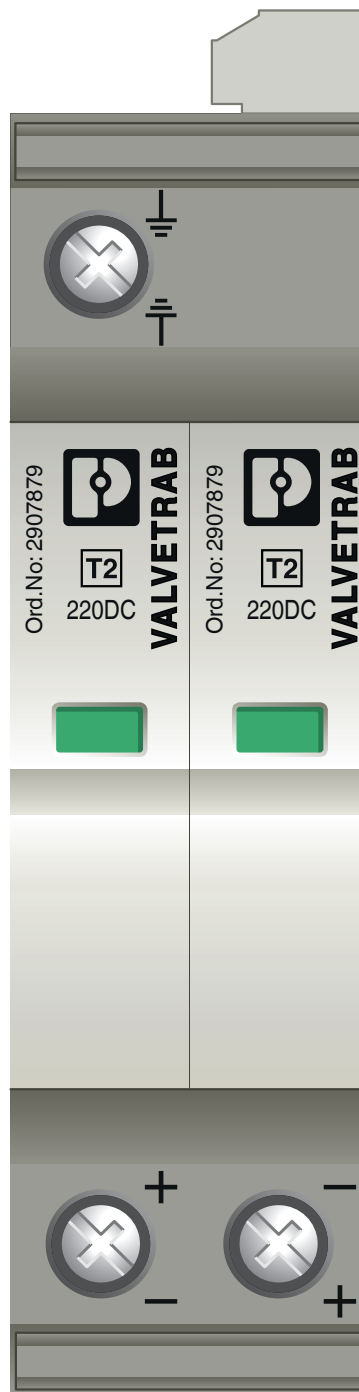
2907875

<https://www.phoenixcontact.com/us/products/2907875>



## Drawings

Product drawing



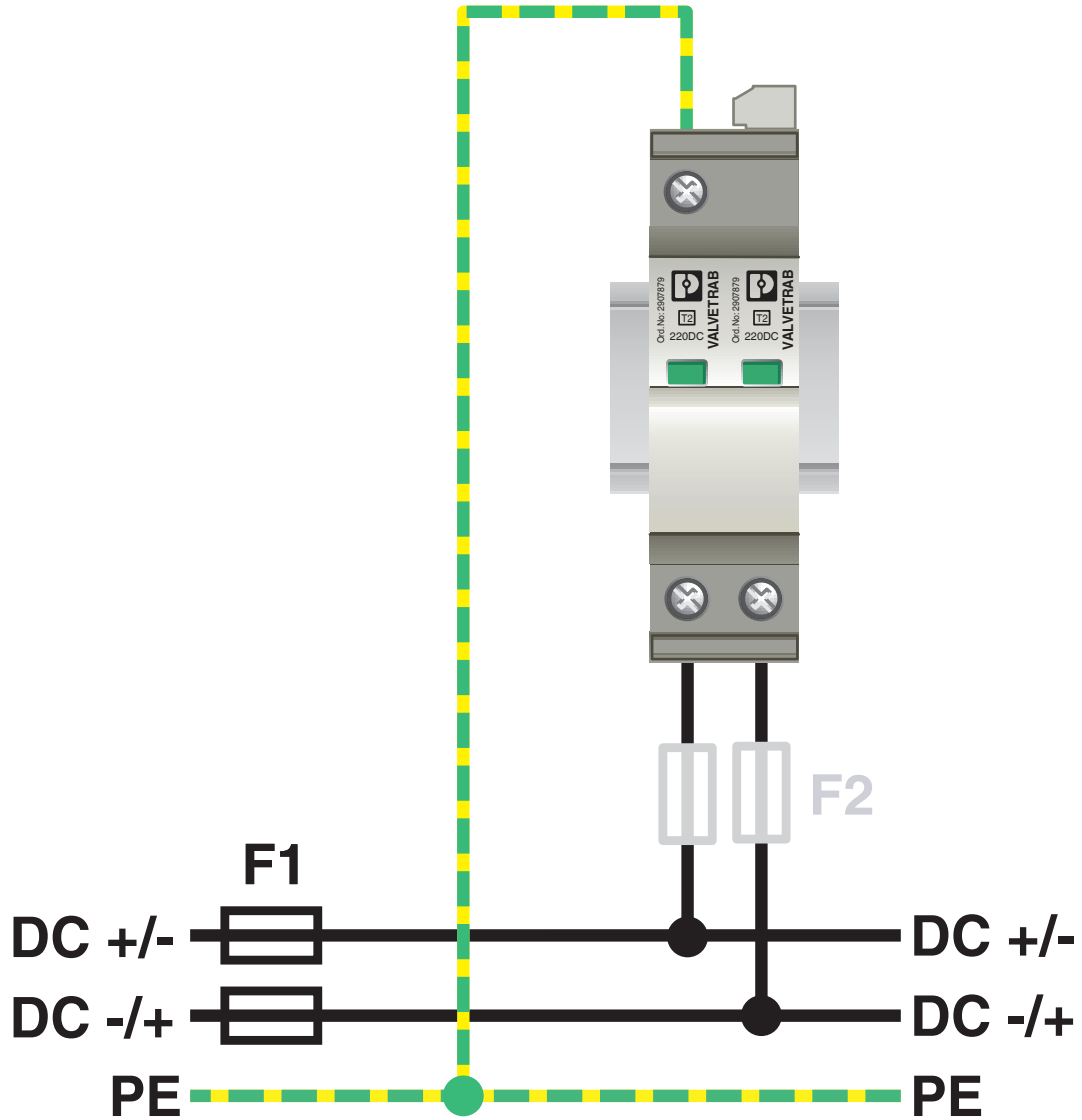
# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester

2907875

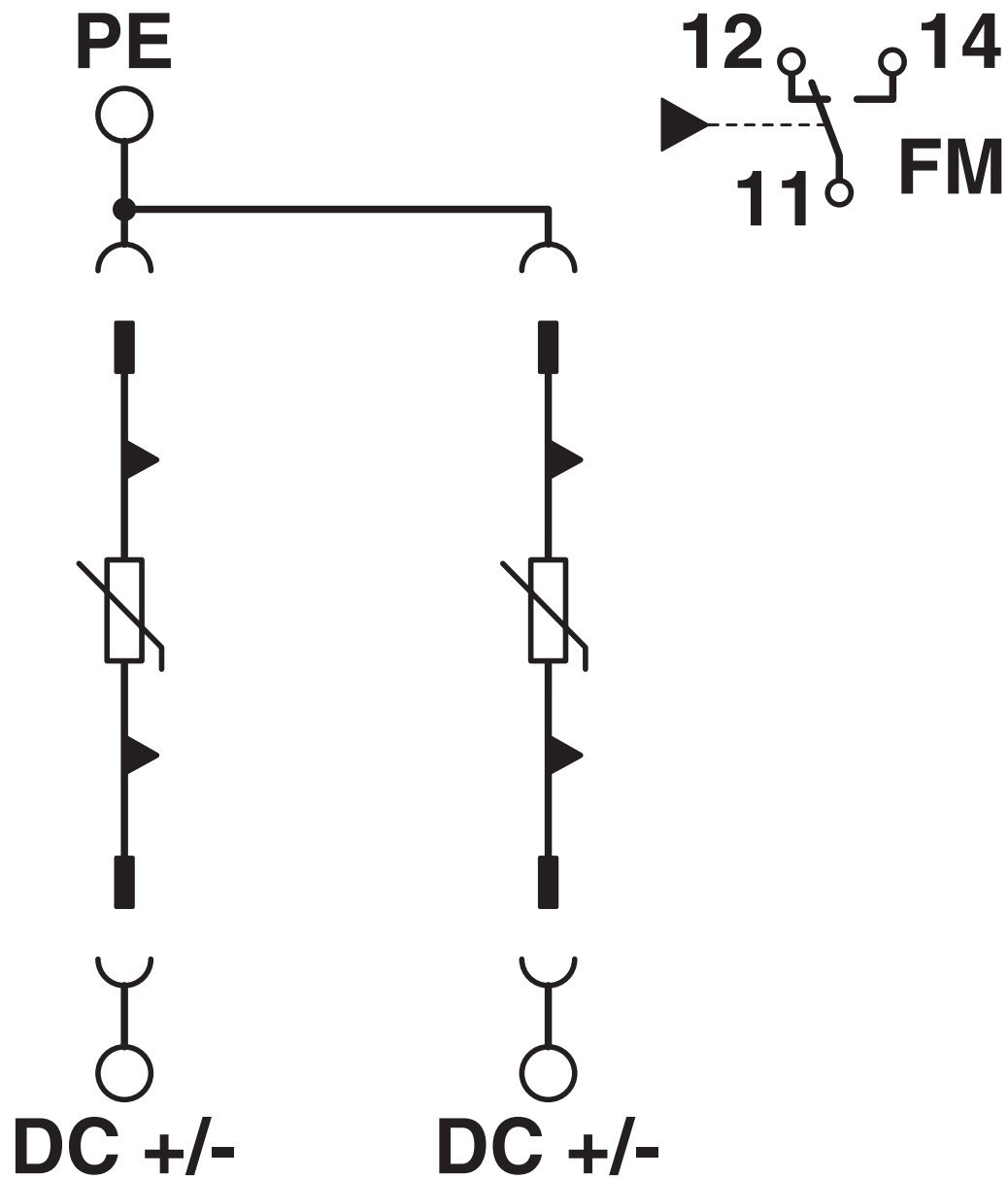
<https://www.phoenixcontact.com/us/products/2907875>



Application drawing



Circuit diagram



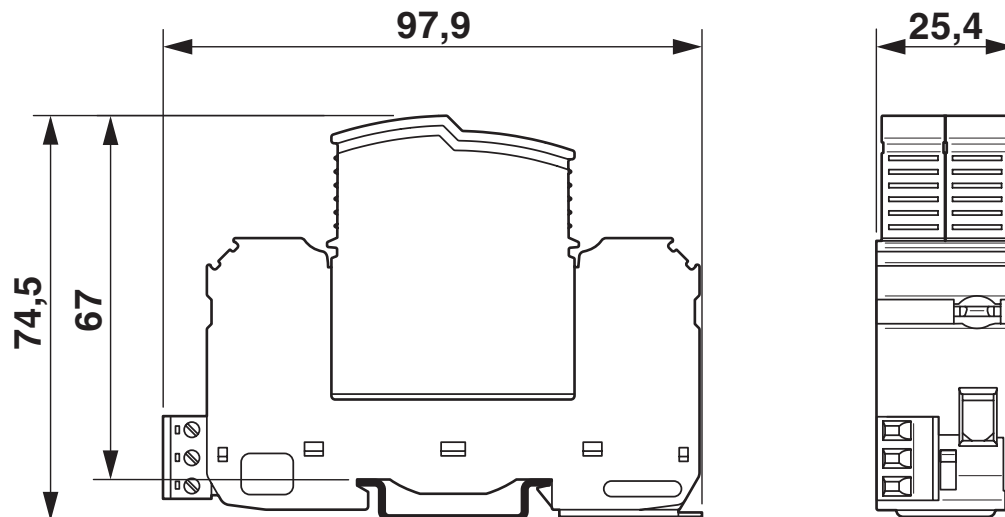
# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester

2907875

<https://www.phoenixcontact.com/us/products/2907875>



Dimensional drawing





# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907875>



**cUL Recognized**  
Approval ID: FILE E 330181



**UL Recognized**  
Approval ID: FILE E 330181



**EAC**  
Approval ID: RU C-DE.\*09.B.00169



**DNV GL**  
Approval ID: TAE000023D

**UAE-RoHS**  
Approval ID: 22-09-50946

**cULus Recognized**

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## Classifications

### ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171302

### ETIM

ETIM 8.0	EC000941
----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## Accessories

### CLIPFIX 35 - End clamp

3022218

<https://www.phoenixcontact.com/us/products/3022218>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

---

### EML (20XE)R - Label

0803452

<https://www.phoenixcontact.com/us/products/0803452>



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## EML (20XE)R YE - Label

0803453

<https://www.phoenixcontact.com/us/products/0803453>



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

---

## ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



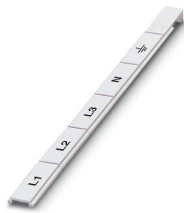
2907875

<https://www.phoenixcontact.com/us/products/2907875>

## ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

---

## ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/products/2749589>



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## ZBFM 5/WH:UNBEDRUCKT - Flat zack marker sheet

0803595

<https://www.phoenixcontact.com/us/products/0803595>

Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm, Number of individual labels: 120



## VAL-SEC-AGK-25 - Pick-off terminal

1452282

<https://www.phoenixcontact.com/us/products/1452282>



Pick-off terminal, can only be used in combination with VAL-SEC-T2 series, nominal voltage: 400 V, nominal current: 63 A, connection method: screw connection, rated cross-section: 25 mm<sup>2</sup>, cross-section: 1.5 mm<sup>2</sup> – 25 mm<sup>2</sup>, color: gray

# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester



2907875

<https://www.phoenixcontact.com/us/products/2907875>

## X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

---

## SZK PZ2 VDE - Screwdriver

1206463

<https://www.phoenixcontact.com/us/products/1206463>



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip



# VAL-SEC-T2-2+0-220DC-FM - Type 2 surge arrester

2907875

<https://www.phoenixcontact.com/us/products/2907875>



## VAL-SEC-T2-220DC-P - Type 2 surge protection plug

2907879

<https://www.phoenixcontact.com/us/products/2907879>



Replacement plug for surge protective devices from the VALVETRAB SEC product range for DC power sources.

---

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)