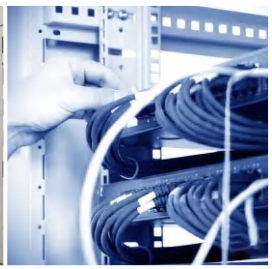
THOR

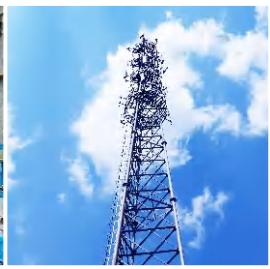
PROTECTOR OF LIGHTNING PROTECTION

– SINCE 2006 –

Catalogue
Surge Protective Devices





Company Profile

THOR is a manufacturer specialised in the development and production of surge protective devices since 2006. THOR offers a complete range of SPDs, such as AC power SPD, PV system SPD, Signal and network SPD, Coaxial RF SPD, lightning rod, lightning box, etc.

THOR SPDs are applied to lightning protection in different low–voltage system fields, such as industry, solar power generation systems, telecommunications, network data centers, office buildings, and homes, etc.

Semi-automatic welding equipment

- Maintain consistent temperature of welding iron head
- Maintain consistent tin production during welding
- More precise welding positions
- Reduce false soldering caused by manual welding

Semi-automatic factory inspection pressure sensitive tester

- Accurately set the positive and negative tolerances for voltage and leakage current
- Supporting fixtures to improve testing efficiency
- If the detection data exceeds the set range, there is an alarm warning function
- MOV 100% factory inspection

Simulated lightning impact test bench (capable of meeting T2:120KA/T1:25KA)

- By simulating lightning stroke testing, the product's ability to withstand lightning current can be verified. It can guarantee the most reliable and safe high–quality products for users.

Enterprise Certificates

As a manufacturer of surge protective devices that pursues high quality,THOR invests a considerable proportion of its annual revenue in innovation,research and development, and international certification to meet the needs of customers in different fields,obtaining more and more certificates to ensure that our SPDs can be distributed in every corner of the world.

Features of THOR Surge Protective Device

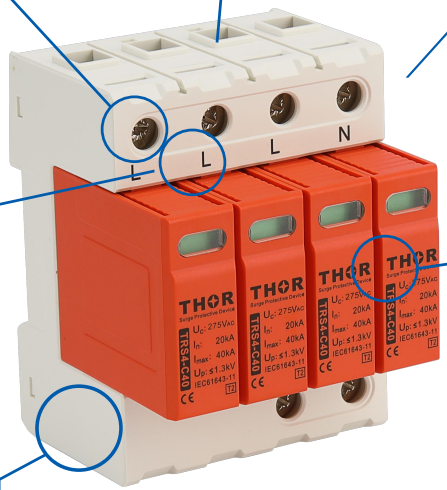
Example: TRS5-B+C

Lock system for fixing of modules

Biconnect terminals

DIN rail 35mm

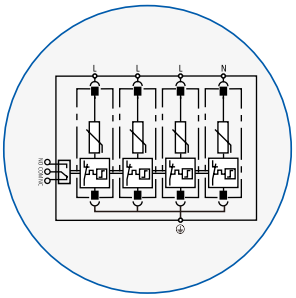
Optical lifetime status indication



Pluggable modules

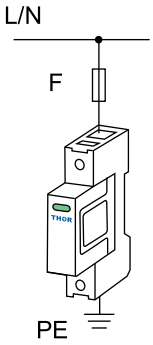
Remote signalling

Circuit diagram

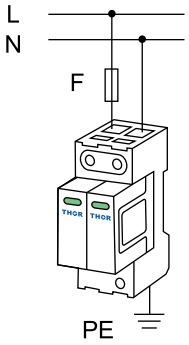


AC SPD Wiring diagram

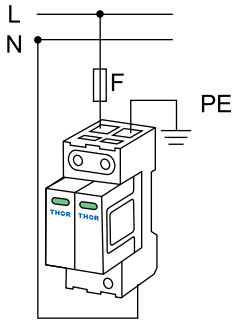
Single phase system



"1+0"
Connection

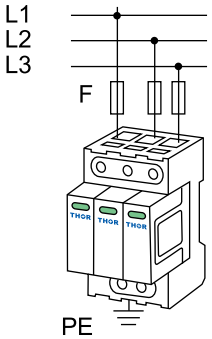


"2+0"
Connection

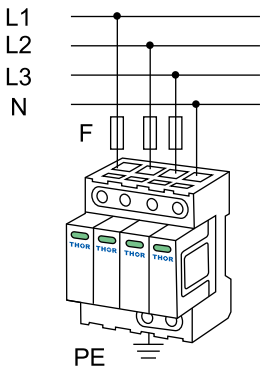


"1+1"
Connection

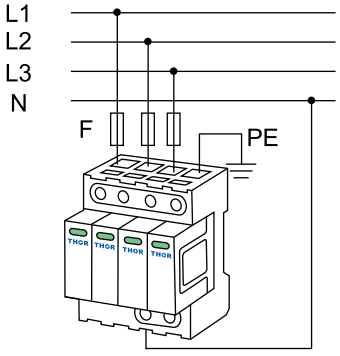
Three phase system



"3+0"
Connection

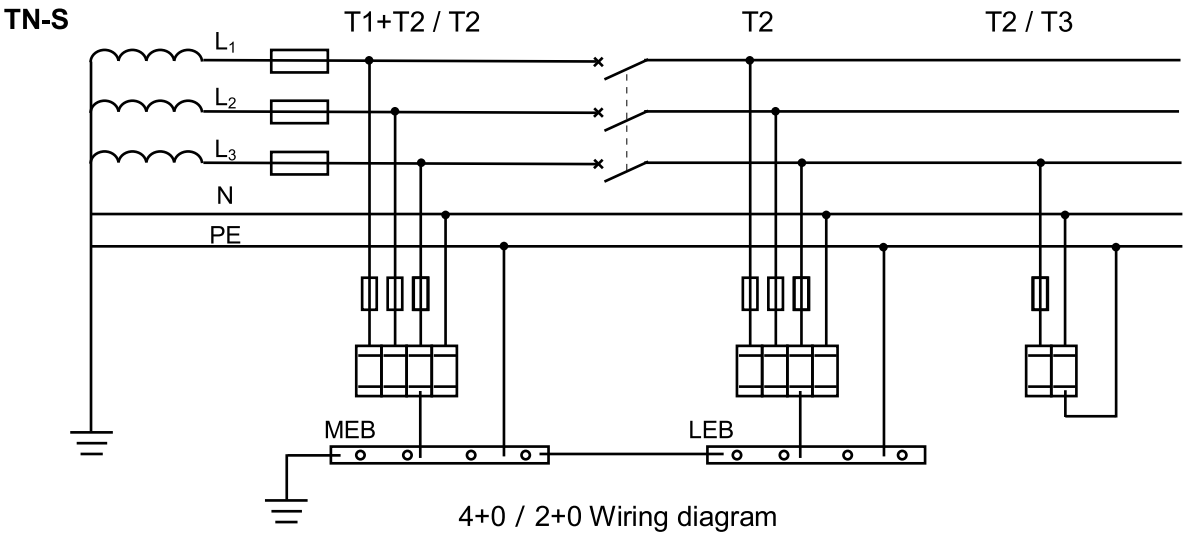


"4+0"
Connection



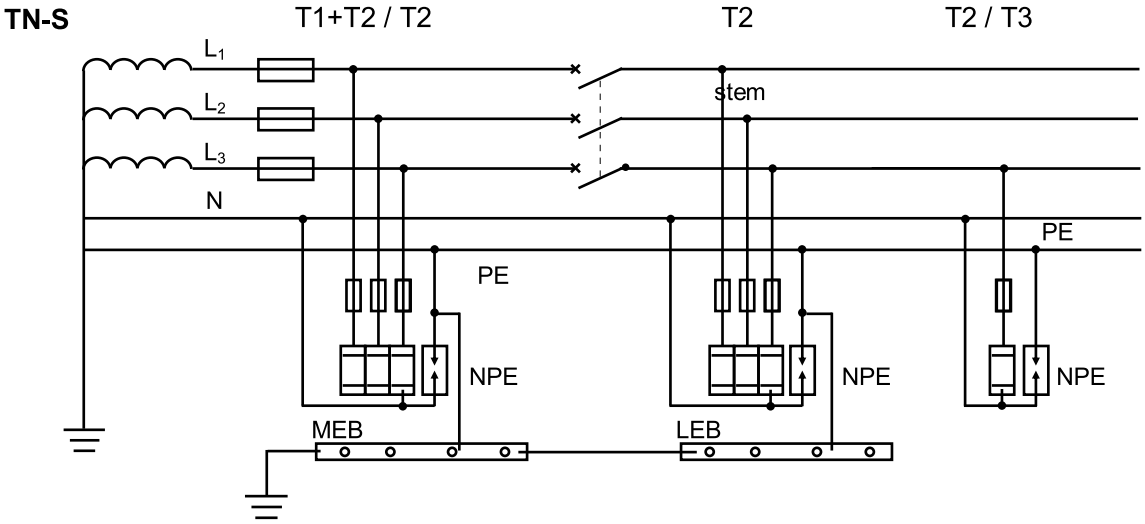
"3+1"
Connection

Connection of AC SPD in networks

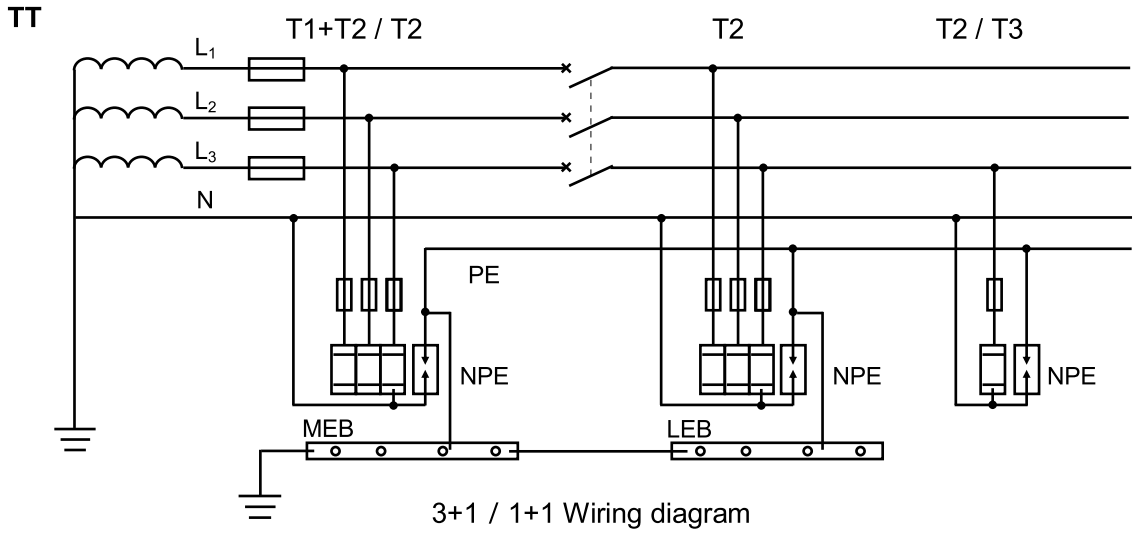


4+0 / 2+0 Wiring diagram

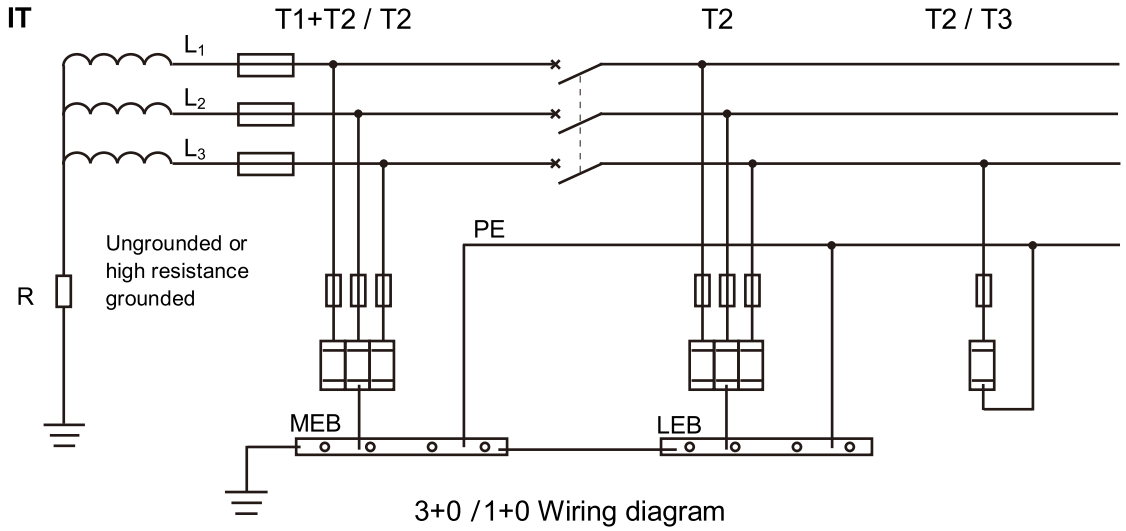
Connection of AC SPD in networks



3+1 / 1+1Wiring diagram



3+1 / 1+1 Wiring diagram



3+0 /1+0 Wiring diagram

TRS–A Series SPD

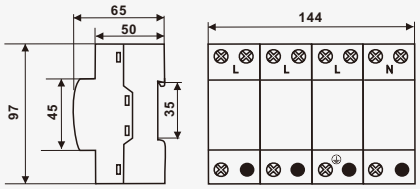
SPD type 1–surge arrester,Graphite gap

visual fault signalling

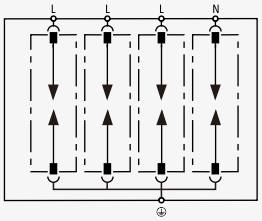
- Graphite gap surge arrester
- Installtion to main distribution boards
- For protection against impact direct or indirect lightning strikes in wide range of applications –houses,office and industrial buildings

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS–A15	TRS–A25	TRS–A50
Nominal volatge	U_n	230V AC		
Maximum operating voltage	U_c	275V AC		
Lightning impulse current (10/350 μs)	I_{imp}	15kA	25kA	50kA
Voltage protection level	U_p	≤2,0kV	≤2,2kV	≤2,5kV
Insulation resistance group		> 100mΩ		
Response time	t_a	< 100ns		
Cross–section of connected conductors solid(min/max)		16mm²/35mm²		
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²		
Fault indication		—		
Degree of protection		IP20		
Range of operating temperatures (min/ max)		–40℃~+70℃		
Humidity range		5%~95%		
Mounting		DIN rail 35 mm		
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T1		
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)		

TRS-B C D Series SPD

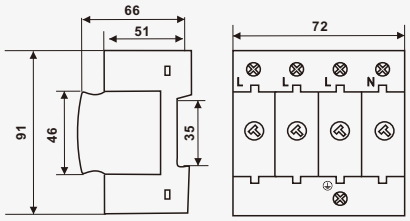
SPD type 2–surge arrester, MOV

Pluggable module, visual fault signalling

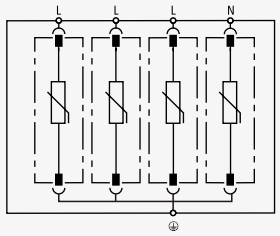
- Varistor surge arrester
- Installtion to sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS–D10	TRS–D20	TRS–C40	TRS–B60
Nominal volatge	U_n	230V AC			
Maximum operating voltage	U_c	275V AC			
Nominal discharge current (8/20μs)	I_n	5kA	10kA	20kA	30kA
Maximum discharge current (8/20μs)	I_{max}	10kA	20kA	40kA	60kA
Voltage protection level	U_p	≤0,7kV	≤1,0kV	≤1,3kV	≤1,5kV
Response time	t_a	<25ns			
Cross–section of connected conductors solid(min/max)		16mm²/35mm²			
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²			
Fault indication		red indication field			
Degree of protection		IP20			
Range of operating temperatures (min/ max)		–40℃~+70℃			
Humidity range		5%~95%			
Mounting		DIN rail 35 mm			
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2			
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)			

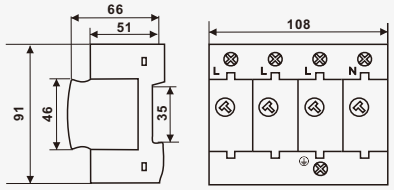
TRS-B Series SPD

SPD type 2–surge arrester, MOV
Pluggable module, visual fault signalling

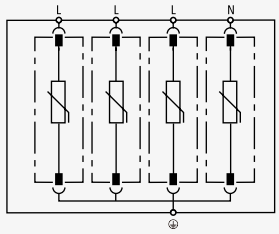
- Varistor surge arrester
- Installtion to sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS–B80	TRS–B100
Nominal volatge	U_n	230V AC	
Maximum operating voltage	U_c	275V AC	
Nominal discharge current (8/20μs)	I_n	40kA	60kA
Maximum discharge current (8/20μs)	I_{max}	80kA	100kA
Voltage protection level	U_p	≤1,8kV	≤2,0kV
Response time	t_a	<25ns	
Cross–section of connected conductors solid(min/max)		16mm²/35mm²	
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²	
Fault indication		red indication field	
Degree of protection		IP20	
Range of operating temperatures (min/ max)		–40℃~+70℃	
Humidity range		5%~95%	
Mounting		DIN rail 35 mm	
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2	
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)	

TRS2 Series SPD

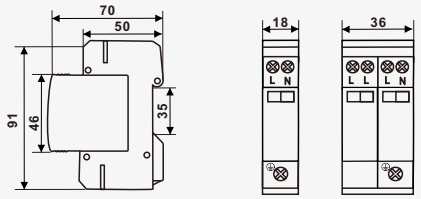
SPD type 2–surge arrester, MOV

Pluggable module, visual fault signalling

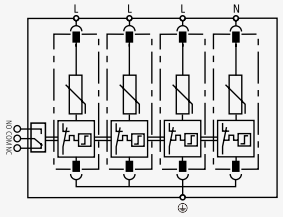
- Varistor surge arrester
- Installtion to sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS2–D20		TRS2–C40	
Nominal volatge	U_n	230V AC			
Maximum operating voltage	U_c	275 VAC	320 V AC	275 VAC	320 V AC
Nominal discharge current (8/20μs)	I_n	10kA		20kA	
Maximum discharge current (8/20μs)	I_{max}	20kA		40kA	
Voltage protection level	U_p	⩽1,0KV	⩽1,2KV	⩽1,3KV	⩽1,5KV
Response time	t_a	< 25ns			
Cross–section of connected conductors solid(min/max)		16mm²/35mm²			
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²			
Fault indication		red indication field			
Remote indication		potential–free change–over contact			
remote indication contacts		250V/0,5A AC,250V/0,1A DC			
Cross–section of remote indication conductors		1,5mm²			
Degree of protection		IP20			
Range of operating temperatures (min/ max)		–40℃~+70℃			
Humidity range		5%~95%			
Mounting		DIN rail 35 mm			
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2			
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)			

TRS4 Series SPD

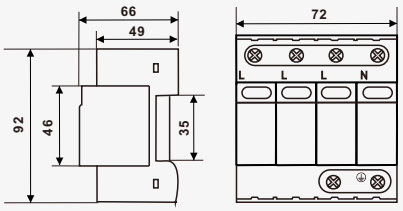
SPD type 2–surge arrester, MOV

Pluggable module, visual fault signalling

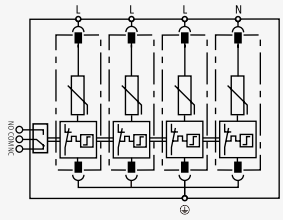
- Varistor surge arrester
- Installtion to sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS4–D20		TRS4–C40		TRS4–B60
Nominal volatge	U_n	230 V AC				
Maximum operating voltage	U_c	275 V AC	320 V AC	275 V AC	320 V AC	275 V AC
Nominal discharge current (8/20μs)	I_n	10kA		20kA		30kA
Maximum discharge current (8/20μs)	I_{max}	20kA		40kA		60kA
Voltage protection level	U_p	⩽1,0 KV	⩽1,2KV	⩽1,3KV	⩽1,5KV	⩽1.5KV
Response time	t_a	< 25ns				
Cross–section of connected conductors solid(min/max)		16mm²/35mm²				
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²				
Fault indication		red indication field				
Remote indication		potential–free change–over contact				
remote indication contacts		250V/0,5A AC,250V/0,1A DC				
Cross–section of remote indication conductors		1,5mm²				
Degree of protection		IP20				
Range of operating temperatures (min/ max)		–40℃~+70℃				
Humidity range		5%~95%				
Mounting		DIN rail 35 mm				
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2				
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)				

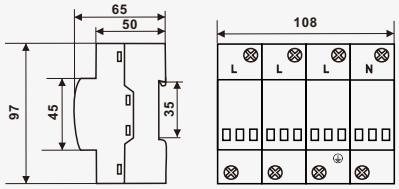
TRS6 Series SPD

SPD type 2–surge arrester, MOV
Pluggable module, visual fault signalling

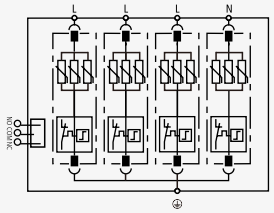
- Varistor surge arrester
- Installtion to sub–distribution boards (Imax:80kA)or main distribution boards (Imax:100kA)
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



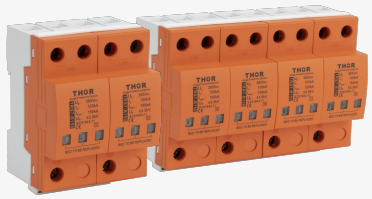
Parameter/Type		TRS6–B80	TRS6–B100
Nominal volatge	U_n	380V AC	
Maximum operating voltage	U_c	385V AC	
Nominal discharge current (8/20μs)	I_n	40kA	60kA
Maximum discharge current (8/20μs)	I_{max}	80kA	100kA
Voltage protection level	U_p	≤2,4kV	≤2,5kV
Response time	t_a	<25ns	
Cross–section of connected conductors solid(min/max)		16mm²/35mm²	
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²	
Fault indication		red indication field	
Remote indication		potential–free change–over contact	
remote indication contacts		250V/0,5A AC,250V/0,1A DC	
Cross–section of remote indication conductors		1,5mm²	
Degree of protection		IP20	
Range of operating temperatures (min/ max)		–40℃~+70℃	
Humidity range		5%~95%	
Mounting		DIN rail 35 mm	
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2	
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)	

TRS7 Series SPD

SPD type 2–surge arrester, MOV
Pluggable module, visual fault signalling

- Varistor surge arrester
- Installtion to sub–distribution boards (Imax:80kA)or main distribution boards (Imax:100kA/120kA/150kA)
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product



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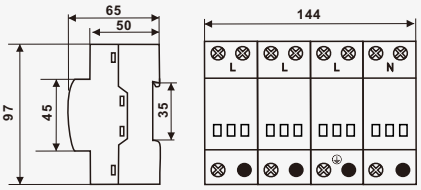
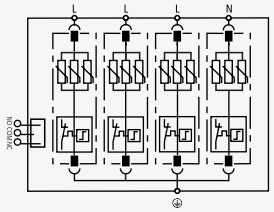


Basic circuit diagram



Parameter/Type		TRS7–B80	TRS7–B100	TRS7–B120	TRS7–B150
Nominal volatge	U_n	380V AC			
Maximum operating voltage	U_c	385V AC			
Nominal discharge current (8/20μs)	I_n	40kA	60kA	80kA	100kA
Maximum discharge current (8/20μs)	I_{max}	80kA	100kA	120kA	150kA
Voltage protection level	U_p	⩽2,4kV	⩽2,5kV	⩽3,0kV	⩽3,5kV
Response time	t_a	<25ns			
Cross–section of connected conductors solid(min/max)		16mm²/35mm²			
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²			
Fault indication		red indication field			
Remote indication		potential–free change–over contact			
remote indication contacts		250V/0,5A AC,250V/0,1A DC			
Cross–section of remote indication conductors		1,5mm²			
Degree of protection		IP20			
Range of operating temperatures (min/ max)		–40℃~+70℃			
Humidity range		5%~95%			
Mounting		DIN rail 35 mm			
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2			
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)			

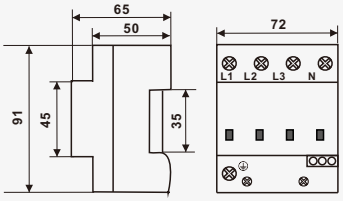
TRS8 Series SPD

SPD type 1+2–surge arrester, MOV+GDT
visual fault signalling

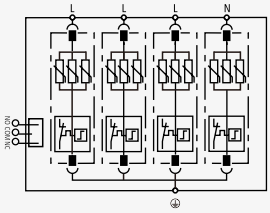
- Varistor and GDT surge arrester
- Installtion to main distribution or sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS8-B+C
Nominal volatge	U_n	230V AC
Maximum operating voltage	U_c	275V AC
Lightning impulse current(10/350μs)	I_{imp}	12,5kA
Nominal discharge current (8/20μs)	I_n	30kA
Maximum discharge current (8/20μs)	I_{max}	60kA
Voltage protection level	U_p	⩽1,5kV
Response time	t_a	<25ns
Cross–section of connected conductors solid(min/max)		16mm²/35mm²
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²
Fault indication		red indication field
Remote indication		potential–free change–over contact
remote indication contacts		250V/0,5A AC,250V/0,1A DC
Cross–section of remote indication conductors		1,5mm²
Degree of protection		IP20
Range of operating temperatures (min/ max)		–40℃~+70℃
Humidity range		5%~95%
Mounting		DIN rail 35 mm
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T1+T2

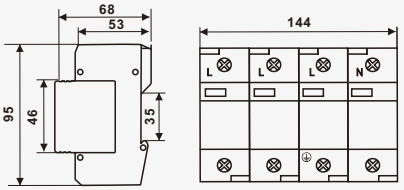
TRS9 Series SPD

SPD type 2–surge arrester, MOV
Pluggable module, visual fault signalling

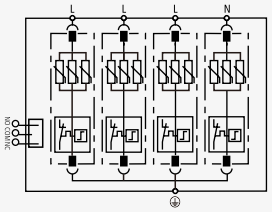
- Varistor surge arrester
- Installtion to sub–distribution boards (Imax:80kA)or main distribution boards (Imax:100kA/120kA/150kA)
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



T2 AC SPD

Parameter/Type		TRS9–B80	TRS9–B100	TRS9–B120	TRS9–B150
Nominal volatge	U_n	380V AC			
Maximum operating voltage	U_c	385V AC			
Nominal discharge current (8/20μs)	I_n	40kA	60kA	80kA	100kA
Maximum discharge current (8/20μs)	I_{max}	80kA	100kA	120kA	150kA
Voltage protection level	U_p	⩽2,4kV	⩽2,5kV	⩽3,0kV	⩽3,5kV
Response time	t_a	<25ns			
Cross–section of connected conductors solid(min/max)		16mm²/35mm²			
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²			
Fault indication		red indication field			
Remote indication		potential–free change–over contact			
remote indication contacts		250V/0,5A AC,250V/0,1A DC			
Cross–section of remote indication conductors		1,5mm²			
Degree of protection		IP20			
Range of operating temperatures (min/ max)		–40℃~+70℃			
Humidity range		5%~95%			
Mounting		DIN rail 35 mm			
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T2			
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)			

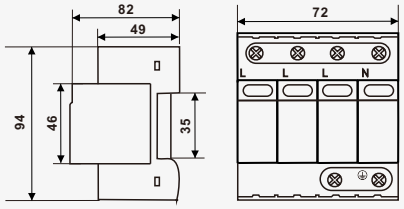
TRS5 Series SPD

SPD type 1+2–surge arrester, MOV
Pluggable module,visual fault signalling

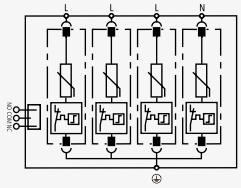
- Varistor surge arrester
- Installtion to main distribution or sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS5-B+C	
Nominal volatge	U_n	230V AC	
Maximum operating voltage	U_c	275V AC	
Lightning impulse current(10/350 μs)	I_{imp}	7kA	12,5kA
Nominal discharge current (8/20μs)	I_n	20kA	
Maximum discharge current (8/20μs)	I_{max}	50kA	
Voltage protection level	U_p	⩽1,3kV	
Response time	t_a	<25ns	
Cross–section of connected conductors solid(min/max)		16mm²/35mm²	
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²	
Fault indication		red indication field	
Remote indication		potential–free change–over contact	
remote indication contacts		250V/0,5A AC,250V/0,1A DC	
Cross–section of remote indication conductors		1,5mm²	
Degree of protection		IP20	
Range of operating temperatures (min/ max)		–40℃~+70℃	
Humidity range		5%~95%	
Mounting		DIN rail 35 mm	
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T1+T2	
Remarks		Other Uc can be customized.(320VAC)	

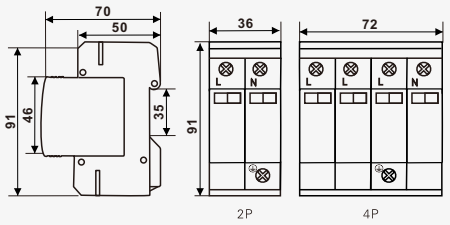
TRS5 Dual Series SPD

SPD type 1+2–surge arrester, MOV
Pluggable module,visual fault signalling

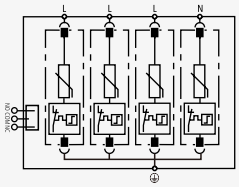
- Varistor surge arrester
- Installtion to main distribution or sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS5-B+C
Nominal volatge	U_n	230V AC
Maximum operating voltage	U_c	275V AC
Lightning impulse current(10/350μs)	I_{imp}	12,5kA
Nominal discharge current (8/20μs)	I_n	20kA
Maximum discharge current (8/20μs)	I_{max}	50kA
Voltage protection level	U_p	⩽1,3kV
Response time	t_a	<25ns
Cross–section of connected conductors solid(min/max)		16mm²/35mm²
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²
Fault indication		red indication field
Remote indication		potential–free change–over contact
remote indication contacts		250V/0,5A AC,250V/0,1A DC
Cross–section of remote indication conductors		1,5mm²
Degree of protection		IP20
Range of operating temperatures (min/ max)		–40℃~+70℃
Humidity range		5%~95%
Mounting		DIN rail 35 mm
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T1+T2
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)

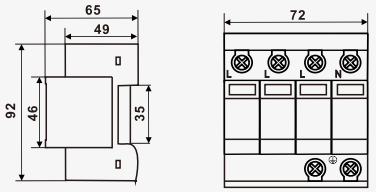
TR30B+C SPD TUV approved

SPD type 1+2–surge arrester, MOV
Pluggable module,visual fault signalling

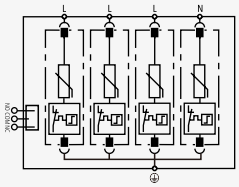
- Varistor surge arrester
- Installtion to main distribution or sub–distribution boards
- For protection of installations and equipments againt impact of induced overvolatge during a lightning strike or switching overvolatges.
- Optional remote fault signalling(s)

Product

Dimension



Basic circuit diagram



Parameter/Type		TRS30B+C
Nominal volatge	U_n	230V AC
Maximum operating voltage	U_c	275V AC
Lightning impulse current(10/350μs)	I_{imp}	4,5kA
Nominal discharge current (8/20μs)	I_n	30kA
Maximum discharge current (8/20μs)	I_{max}	60kA
Voltage protection level	U_p	⩽1,5kV
Response time	t_a	<25ns
Cross–section of connected conductors solid(min/max)		16mm²/35mm²
Cross–section of connected conductors stranded(min/max)		16mm²/35mm²
Fault indication		red indication field
Remote indication		potential–free change–over contact
remote indication contacts		250V/0,5A AC,250V/0,1A DC
Cross–section of remote indication conductors		1,5mm²
Degree of protection		IP20
Range of operating temperatures (min/ max)		–40℃~+70℃
Humidity range		5%~95%
Mounting		DIN rail 35 mm
According to standard		EN 61643–11:2012,IEC 61643–11:2011/T1+T2
Remarks		Other Uc can be customized.(420VAC,385VAC,320VAC,etc.)

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