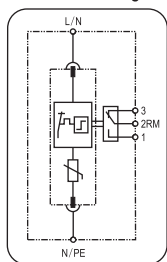


BT P BCM12.5 275 RM ... series

SPD-Type 1+2
(Class B+C/I+II)



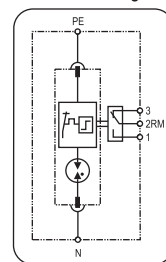
Basic circuit diagram:



L/N (PE) - Protection module



Basic circuit diagram:



N/PE - Protection module

• Product introduction

1. Summary

BT P BCM12.5 275 RM... series product is for installation at LPZ 0_n-2 or higher, protect low voltage devices from surge damages. Surge protection combined single-phase and three-phase for TT/TN system. Applied in SPD Class I+II (Class B+C) for various power supply system of lightning current surge protection. Designed according to IEC 61643-11; GB/T 18802.11.

3. Application

BT P BCM12.5 275 RM... series is mainly for installing main power distribution-box to discharge direct lightning current.

• Installation instruction

According to lightning protection zones concept, for installation at LPZ 0_n-2 or higher. This surge protective device is usually installed in distribution-box or feeder bus of UPS, protecting devices or equipment downstream.

Fuse must be installed at the upstream of the SPD or the lightning arrester to make sure that the protected system has double protection. The value of the fuse used in a SPD system should be conformed to:

1. The value of FUSE should not be larger than the max. withstand capacity of the SPD's backup fuse value.
2. Under the status of the max. current in the power supply & close loop circuit available current, the fuse should be able to disconnect when overloaded or short-circuited.
3. Take 1 & 2 into consideration, the fuse should be as large as possible to allow the maximum surge discharge of SPD.

2. Main character

- 10/350μs, 8/20μs varistors
- Consist of varistor and thermal disconnection device
- High discharge capacity, quick response, pluggable
- Double thermal disconnection devices, providing more reliable protection
- Multifunctional connection for conductors and busbars
- Green window will change to red when fault and also provide remote alarm control at the same time

4. Application environment

- Temperature: -40°C ~ +80°C
- Relative humidity: ≤ 95% (25°C)

• Installation steps

1. Check the product for integrity of the package; make sure the product window indicate green.
2. Mount the SPD on the 35mm DIN rail.
3. Connect conductors, the cross-sectional area of cable must be larger than 6mm². The withstand voltage value of cable is not smaller than AC500V; ensure wiring reliable.
4. If need remote alarm, it should be connected signal lines to remote signal terminal 1 and 2, or 2 and 3 (When normal, 1 and 2 open, 2 and 3 close; when fault, the state is reversed).
5. After above, switch on the power supply and turn on the circuit breaker, if the SPD's window indicates green, this indicates the unit is operating normally.
6. The minimum distance from any earthed conductive surface at which the SPD can be installed is 8mm.

Regularly inspect the operating status, especially after lightning. Once the fuse upstream breaks, or the SPD's window indicates red, electrician should check/replace the SPD.

• Technical data


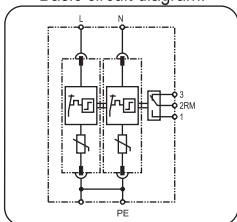

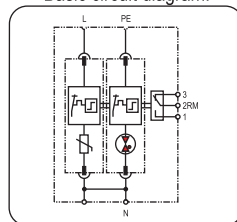

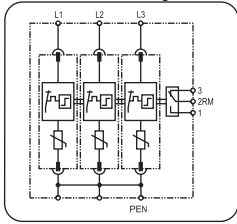

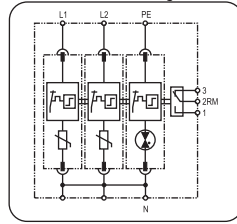

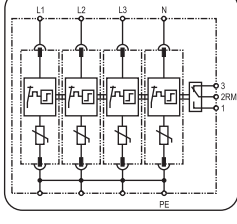

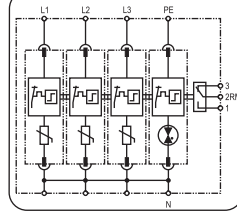
Type		BT P BCM12.5 275 RM	BT P BCM25 255 RM
Nominal a.c. voltage	U _N	230V / 400V~	
According to IEC 61643-11		Type 1+2 / Class B+C	
Rated voltage (max. continuous voltage)	U _C	320V~	255V~
Lightning impulse current (10/350μs)	I _{imp}	12.5kA	37.5kA
Nominal discharge current (8/20μs)	I _n	30kA	50kA
Max. discharge current (8/20μs)	I _{max}	60kA	100kA
Total lightning discharge current (8/20μs)	I _{total}	100kA	
Voltage protection level at 320V	U _p	1.8kV @ 320V	1.5kV
Residual voltage(U _p at I _{imp})	U _{res}	1.35kV @ I _{imp}	—
Follow current	I _f	—	1000A
Specific energy	W/R	39.06kJ/ohms	351.56kJ/ohms
Response time	t _A	25ns	100ns
Degree of protection provided by the enclosure		IP 20	
Temporary overvoltage test value	U _T	355V/5sec	
Number of ports		One-port	
Installation position category		Inaccessible	
Method of mounting		Fixed	
Presence of switching component (s)		N-PE	
Prospective short-circuit current		1A	
Dielectric withstand		3000V	
Admissible short-current	I _{scor}	25kA	
Orientation for normal installation		In door	
Max. back up fuse		160A gL/gG	
Operating temperature range	T _u	-40°C...+80°C	
Cross-sectional area		1.5mm ² ~ 25mm ² solid / 35mm ² flexible	
Mounting on		35mm DIN rail	
Enclosure material		Light grey thermoplastic, UL94-V0	
Dimension		1 mod	
Test standards		IEC 61643-11; GB/T 18802.11	
Certification		TUV, CE, RoHS	
Type of remote signalling contact		Switching contact	
Switching capacity	U _v /I _n	AC: 250V/0.5A; DC: 250V/0.1A, 150V/0.2A, 75V/0.5A	
Cross-sectional area for remote signalling contact		Max. 1.5mm ² solid / flexible	

Order information	Single module	TN system	TN-C system	TN-S system	TT1+1 system	TT2+1 system	TT3+1 system
Type	BT P BCM12.5 275 RM	BT P BCM25 275 RM/2P	BT P BCM12.5 275 RM/3P	BT P BCM12.5 275 RM/4P	BT P BCM12.5 275 RM/1+N	BT P BCM12.5 275 RM/2+N	BT P BCM12.5 275 RM/3+N
Art.-No.	801 406	801 400	801 412	801 417	801 422	801 427	801 437

WARNING:

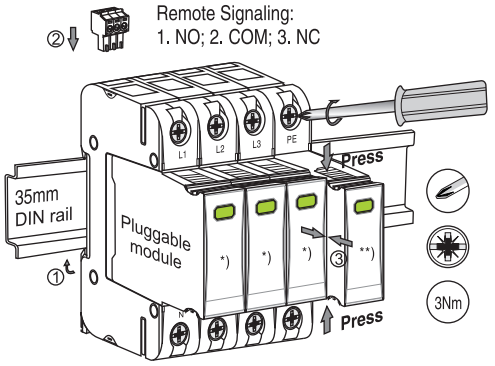
1. The device must be installed by electrically skilled person, conforming to national standards and safety regulations.
2. It is recommended that installation should be done under power off condition.


• Combined SPD Series

<p>BT P BCM12.5 275 RM/2P</p>  <p>Basic circuit diagram:</p> 	<p>BT P BCM12.5 275 RM/1+N</p>  <p>Basic circuit diagram:</p> 
<p>BT P BCM12.5 275 RM/3P</p>  <p>Basic circuit diagram:</p> 	<p>BT P BCM12.5 275 RM/2+N</p>  <p>Basic circuit diagram:</p> 
<p>BT P BCM12.5 275 RM/4P</p>  <p>Basic circuit diagram:</p> 	<p>BT P BCM12.5 275 RM/3+N</p>  <p>Basic circuit diagram:</p> 

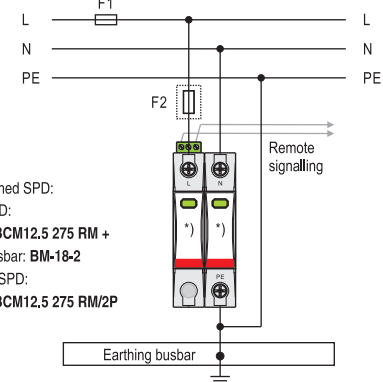
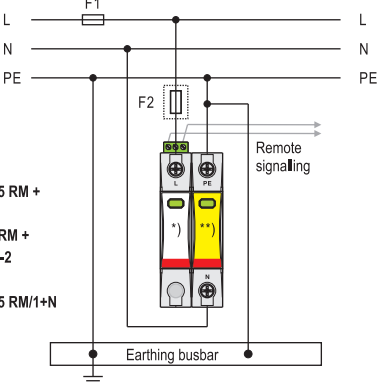
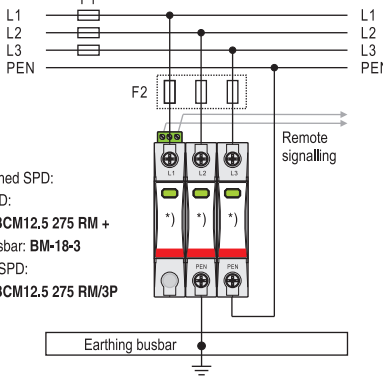
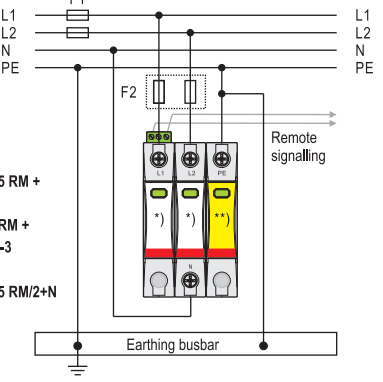
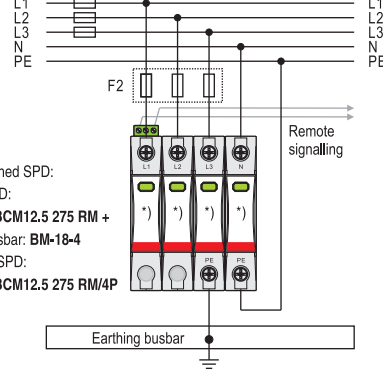
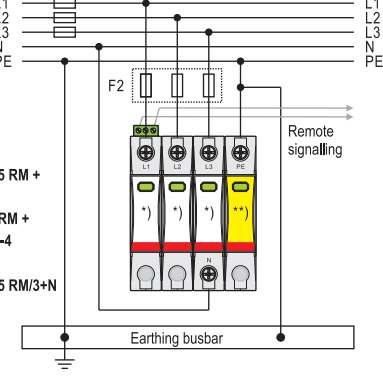
• Installation Diagram

Remote Signalling:
1. NO; 2. COM; 3. NC



	Production module
TN-system	*) / **) BT P BCM12.5 275 RM
TT-system	L-N: *) BT P BCM12.5 275 RM
	N-PE: **) BT P BCM25 255 RM
F1	F1 > 160A gL/gG → F2 ≤ 160A gL/gG
F2	F1 ≤ 125A gL/gG → F2 < F1
Cross-sectional area	15.5mm 15.5mm 15.5mm
L/N/PE min	1.5mm ² solid/flexible
L/N/PE max	25mm ² solid/35mm ² flexible
	Buabar / 16mm ² 

• Power System SPD connection

<p>Single-phase protection (2+0) TN system connection:</p>  <p>Combined SPD: 2 x SPD: BT P BCM12.5 275 RM + 1 x Busbar: BM-18-2 or 1 x SPD: BT P BCM12.5 275 RM/2P</p>	<p>Single-phase protection (1+N) TT1+1 system connection:</p>  <p>Combined SPD: 1x SPD: BT P BCM12.5 275 RM + 1 x SPD: BT P BCM25 255 RM + 1 x Busbar: BM-18-2 or 1 x SPD: BT P BCM12.5 275 RM/1+N</p>
<p>Three-phase protection (3+0) TN-C system connection:</p>  <p>Combined SPD: 3 x SPD: BT P BCM12.5 275 RM + 1 x Busbar: BM-18-3 or 1 x SPD: BT P BCM12.5 275 RM/3P</p>	<p>Two-phase protection (2+N) TT2+1 system connection:</p>  <p>Combined SPD: 2 x SPD: BT P BCM12.5 275 RM + 1 x SPD: BT P BCM25 255 RM + 1 x Busbar: BM-18-3 or 1 x SPD: BT P BCM12.5 275 RM/2+N</p>
<p>Three-phase protection (4+0) TN-S system connection:</p>  <p>Combined SPD: 4 x SPD: BT P BCM12.5 275 RM + 1 x Busbar: BM-18-4 or 1 x SPD: BT P BCM12.5 275 RM/4P</p>	<p>Three-phase protection (3+N) TT3+1 system connection:</p>  <p>Combined SPD: 3 x SPD: BT P BCM12.5 275 RM + 1 x SPD: BT P BCM25 255 RM + 1 x Busbar: BM-18-4 or 1 x SPD: BT P BCM12.5 275 RM/3+N</p>