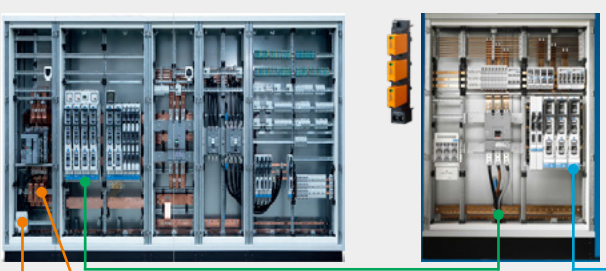





Application note





Installation hints for VPU AC BS60 surge protection

Where is surge protection installed in switchgear cabinets?

Case study: Installation with external lightning protection

Main building	Side building
 <p>NSHV</p>	
 <p>Main connection point Type I at the feed-in</p>	 <p>Main connection point building 2 Type I at the feed-in</p>
<p>Type II on 60 mm busbar to protect the components</p>	

Case study: Installation without external lightning protection

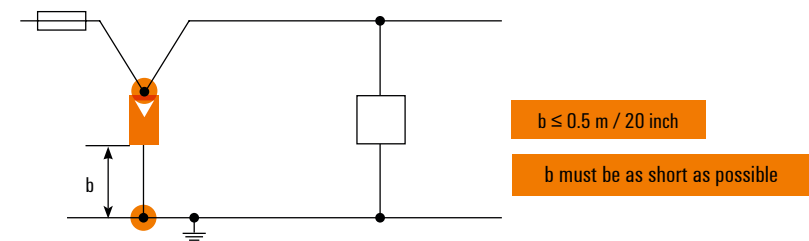
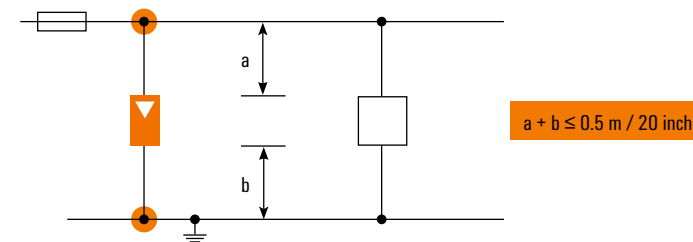
Main building	Side building
 <p>Main/floor distribution</p>	
 <p>Main connection point Type II on 60 mm busbar to protect the components</p>	 <p>Main connection point building 2 Type II on 60 mm busbar</p>

Installation hints and requirements according to IEC 60364-5-53 / DIN VDE 0100-543

IEC 60364-5-53 and DIN VDE 0100-543 define the type of installation for the surge protection device (SPD). They specify that the total length of the cables from the **connection point** of the SPD on the active conductor to the **connection point** of the SPD to the ground must not exceed 0.5 m.

Definition of connection point:

The connection point refers to the nearest screw, block or plug connection of the cable connected to the SPD with the respective active conductor or the grounding system. This can be a terminal block, grounding screw or copper busbar connection, as well as a connection point on another device such as a main switch.



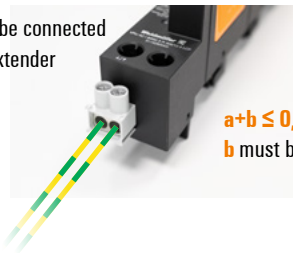
Installation instructions and requirements for 3+0 circuits

Cable length: 50 cm installation rule and V-wiring

When installing the VPU AC BS60, V-wiring is achieved through direct busbar mounting. With a 3+0 circuit, only the cable length of the PE conductor to connection point "b" needs to be taken into account.

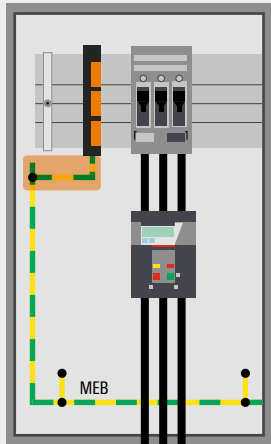


2 PE cables can be connected to Type I via an extender

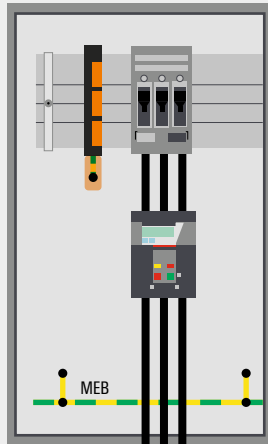


$a+b \leq 0,5m$ / $b \leq 0,5m$
b must be as short as possible

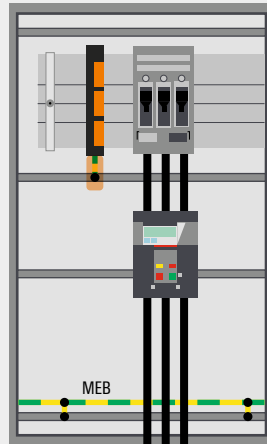
Only cables in the marked area count towards the calculation



Extension of the MEB up to the height of the 60 mm busbar system via copper rail or conductor



Use of the grounded mounting plate



Use of the grounded switch cabinet frame

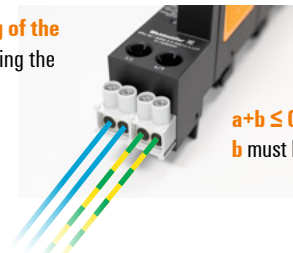
Installation instructions and requirements for 3+1 circuits

Cable length: 50 cm installation rule and V-wiring

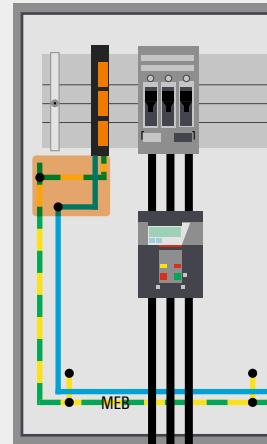
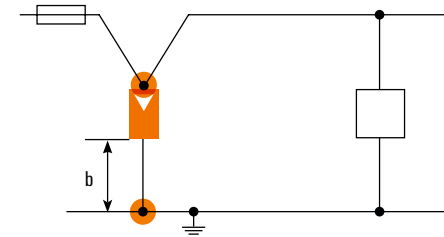
The V-wiring for phases L1, L2, and L3 is achieved through direct busbar mounting. In the 3+1 circuit, the cable lengths of the N conductor ("a") and the PE conductor ("b") must be taken into account. With the help of the extender, V-wiring can also be carried out for the N conductor. This eliminates the need for cable route "a".



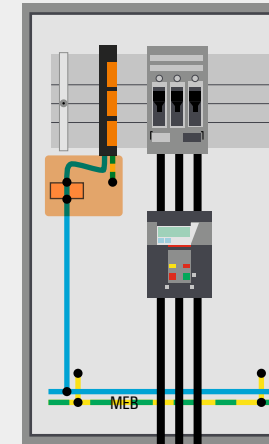
Creating a V-wiring of the N conductor by using the extender



$a+b \leq 0,5m$ / $b \leq 0,5m$
b must be as short as possible



Extension of the N-rail to the height of the 60 mm busbar system via copper rail or conductor



Relocation of the connection point for N to the vicinity of the surge protection device

