

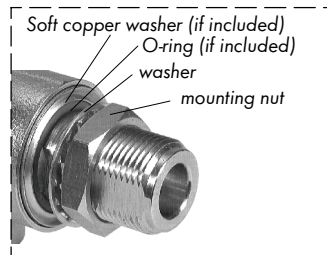
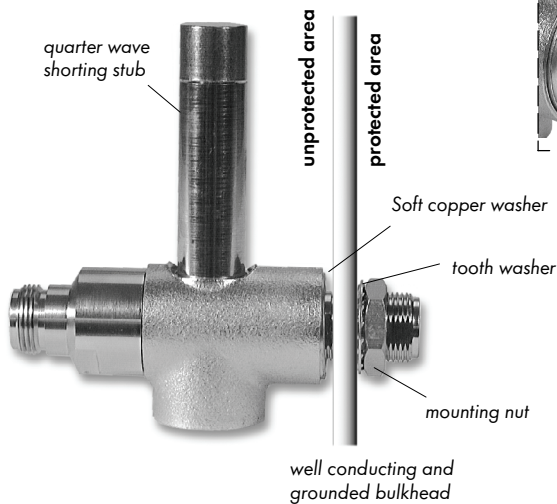
General Mounting and Grounding Instructions for HUBER+SUHNER Lightning Protectors Series 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409 and 3410

HUBER+SUHNER lightning protectors provide reliable protection against dangerous surge signals on coaxial lines. This includes all kinds of interference e.g. resistive, magnetic field and electric field coupling caused by lightning strikes, switching and other natural or man made electrical effects. Best protection is achieved if the protector is properly integrated in the bonding/grounding system of the electronic equipment following the lightning protection zone principle of IEC 61312-1.

1. Preferred Installation

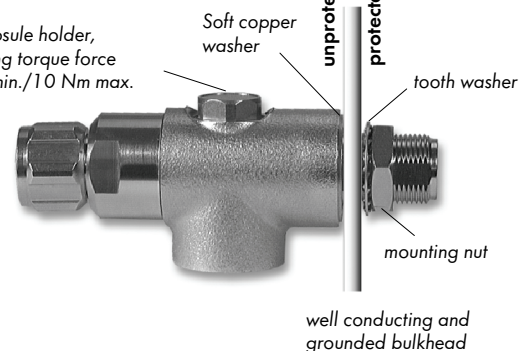
The protection zone principle favours the feed-through installation in a conductive and grounded bulkhead which is simultaneously the border to the higher protection zone containing the equipment to be protected. It is recommended to place the quarter-wave stub or the gas capsule outside as follows:

Protectors without gas capsule
3400, 3407



Protectors with gas capsule
3401, 3402, 3403, 3404, 3405,
3408, 3409, 3410

gas capsule holder,
mounting torque force
6 Nm min./10 Nm max.

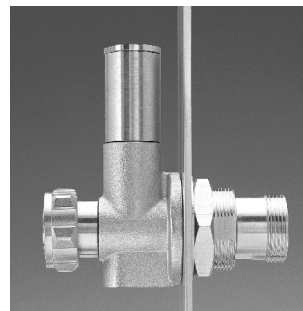


mounting torque:	AF 19 mm max.:	20 Nm min./25 Nm max.
for mounting nut size:	AF larger 19 mm:	35 Nm min./44 Nm max.

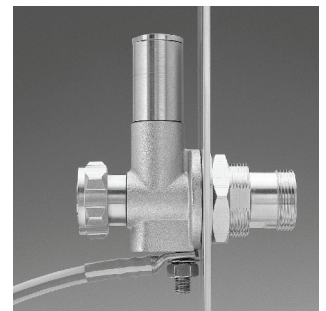
Practical recommendations:



preferred bulkhead installation (outside view)



well grounded bulkhead



poorly grounded bulkhead

These variants avoid any surge currents which are down conducted by the protector to flow inside of the protected area where they could induce secondary surge signals.

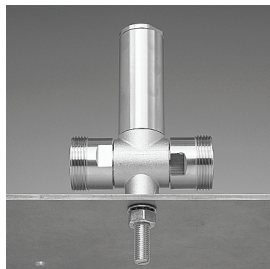


Conformity with EU Directive 2002/95/EC (RoHS)

The HUBER+SUHNER companies aim to comply with all relevant legal requirements at all time. This also holds true for the EU Directive 2002/95/EC "on the restriction of the use of certain hazardous substances in electrical and electronic equipment" (RoHS). We are proud to state that we are able to supply components fully compliant with the RoHS for electrical and electronic equipment.

2. Further Installation Possibilities

The protectors can alternatively be installed right behind the wall of the protection zone in or on the bonding bar. The following shows the most common variants:

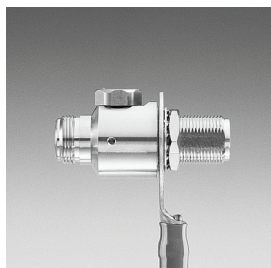
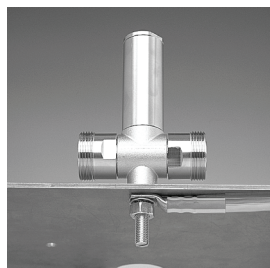


directly



via bracket

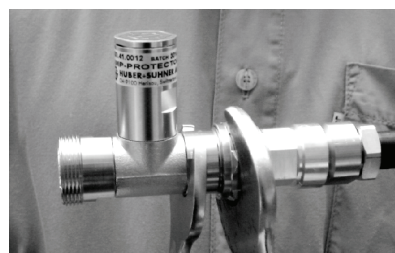
If this is not possible then the protectors should be connected to the bonding facility by a sufficiently sized grounding cable (AWG 6/16 mm² min.) as short distant as possible (0.5 m max.)



3. Further General Recommendations and Hints:

- The protector should be grounded directly if any possible (not via the connected cable screen) to keep the ground connection as short as possible.
- Take care for clean and smooth contact transitions when installing. This is also important for waterproof bulkhead installations.

- Torque forces for bulkhead mounting/grounding:
 - 20 Nm (14.7 ftlb) min./25 Nm (18.4 ftlb) max. for mounting nut size AF 19 mm (3/4") max.
 - 35 Nm (25.8 ftlb) min./44 Nm (32.3 ftlb) max. for mounting nut size larger AF 19 mm (3/4")
- In the case of bulkhead re installations of series 3400, 3401, 3402, 3403, 3404, 3405, 3407, 3408, 3409 and 3410 protectors use a new mounting set (washer, V-washer and nut) for good contact transition and waterproofing.
- Waterproof installations require suitable IEC/MIL conform counter connectors (male connectors include sealing ring) which must be properly tightened.
- With gas capsule protectors of series 3401, 3402, and 3408 (normally delivered without capsule) select and insert the suitable gas capsule according to RF power.
- Select the capsule with the lowest suitable static sparkover voltage to achieve best protection. Generally the minimum value of the static sparkover voltage must not be lower than 1.5 times the RF peak voltage on the line.
- Recommended gas capsule holder torque force: 6 Nm (4.4 ftlb)
- Series 3403, 3404, 3405, 3406, 3409 and 3410 products are shipped with capsule included.
- When connecting cables the protector has to be counter-held by a spanner across existing flats on the protector head:



Coupling nut torque forces must not exceed IEC standard or manufacturer detail specifications (IEC: DIN 7/16 - 30 Nm max. and N - 1.13 Nm max.).

- The bending moment created by connected cables must not exceed specified values (DIN 7/16 - 50 Nm max. and N - 1 Nm max.).
- If exposed to extreme environmental conditions, especially icy conditions or polluted atmosphere, the protector should be covered with a self-vulcanising tape or a cold shrink tube.

Warning

Disconnect or switch off in-line equipment when installing, checking, disconnecting and connecting lightning protectors. This includes also the exchange of gas capsules. Keep back from such activities during thunderstorms.

Be aware that only a complete protection system according to IEC 61024-1 and IEC 61312-1 can protect your equipment and personnel against the impact of lightning.

This includes an external lightning protection system with air terminal, down conductor and grounding system and bonding of all incoming and outgoing lines (e.g. protectors for mains, data and telephone lines) - not RF lines only.

With gas capsule protectors take care that the gas capsule has been properly installed before putting the equipment into operation.



Part Name 部件名称	Toxic or hazardous Substances and Elements / 有毒有害物质或元素					
	Lead (Pb) 铅	Mercury (Hg) 汞	Cadmium (Cd) 镉	Hexavalent Chromium (Cr VI) 六价铬	Polybrominated biphenyls (PBB) 多溴联苯	Polybrominated diphenyl ethers (PBDE except decabromodiphenyl oxide) 多溴二苯醚 (不包括十溴二苯醚)
Metal & Metallic parts 金属和金属 成分	X	O	O	O	O	O
Plastics & Polymers 塑胶和聚合物	O	O	O	O	O	O

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.
X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.
(Enterprises may further provide in this box technical explanation for marking "X" based on their actual conditions.)
○: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。
X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。(企业可在此处,根据实际情况对上表中打"X"的技术原因进行进一步说明。)