

INTRODUCTION

These instructions explain how to install Furse ESP K Series Surge Protection Devices (SPDs) to LSA-PLUS distribution frames. Use:

ESP KT1, ESP KT1/PTC

for analogue PSTN and U interface ISDN telephone lines (via an ESP KE10 earth bar)

ESP KT2

for S/T interface ISDN telephone lines (via an ESP KE10 earth bar)

ESP K10T1, ESP K10T1/PTC

for analogue PSTN and U interface ISDN telephone lines

ESP K10T2

for S/T interface ISDN telephone lines

The mains power supply to PBX/ISDN equipment should also be protected with the appropriate Furse ESP protector.



1. Safety note:

Warning! Installation by person with electrotechnical expertise only.

Warnung! Installation nur durch elektrotechnische Fachkraft.

Avvertenza! Fare installare solo da un elettricista qualificato.

Avertissement! Installation uniquement par des personnes qualifiées en électricité.

Advertencia! La instalación deberá ser realizada únicamente por electricistas especializados.

2. Before installation

2.1 Check physical compatibility of the product.

- ESP KT1, ESP KT1/PTC and ESP KT2 Protectors are designed for installation on LSA-PLUS distribution frames with ‘ten pair’

pair’ disconnection strips, using LSA-PLUS earth bar ESP KE10

- ESP K10T1, ESP K10T1/PTC and ESP K10T2 Protectors are designed for installation on LSA-PLUS distribution frames with ‘ten pair’ disconnection strips

2.2 Be sure that the maximum working voltage of the telephone line (DC or AC peak) will never exceed the maximum working voltage of the ESP Protector.

Otherwise it will clamp signal or ringing voltages as though they were transient overvoltages.

	Line to line max. voltage	Line to earth max. voltage
ESP KT1	296 V	296 V
ESP KT2	5 V	58 V
ESP K10T1	296 V	296 V
ESP K10T1/PTC	296 V	296 V
ESP K10T2	5 V	58 V

3. Installation

3.1 Orientation

The distribution frame contains several disconnection strips (see Figure 1). Each disconnection strip has wires entering from two sides.

One side provides connection to the equipment to be protected (ie PBX/ISDN equipment) - this will be our **clean** side.

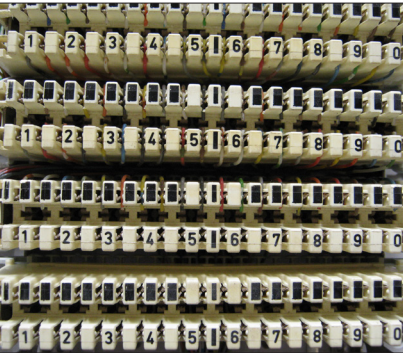


Figure 1: Connection strips on an LSA-PLUS distribution frame.

The other side connects to where transients may come from, ie: the outside world (the incoming lines of the telephone company/ utility and extensions which are routed to another building) - this will be our **line** side.

3.2 Connection

This section is divided into two parts. ‘Part (a)’ refers to connection of ESP KT1, ESP KT1/PTC and KT2 units via an ESP KE10 earth bar. For connection of ‘ten pair’ ESP K10T1, ESP K10T1/PTC and ESP K10T2 units refer to ‘Part (b)’.

(a) ESP KT1, ESP KT1/PTC, ESP KT2 Identify which lines require protection

Each line (or pair) which connects with the outside world provides transient overvoltages with a route into the electrical system.

Protection must therefore be installed on each of these lines.

Identify:

- (i) all incoming lines from your telecommunications provider, and
- (ii) any telephone lines which leave the building (eg PBX extensions)

Remove any label holders, magazines & GDTs from the disconnection strip
If the disconnection strips requiring protection are already populated with label holders, magazines or gas discharge tubes (see Figure 2) these must be removed before the Furse ESP KE10 and ESP KT1 or ESP KT1/PTCs or ESP KT2s can be installed.



Figure 2: Clear the front face of the connection strip of all obstacles (eg label holders, magazines or gas tubes).

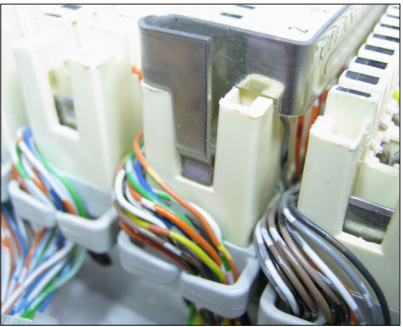


Figure 3: Connection of ESP KE10 to mounting frame, for earth connection.

Insert the ESP KE10 earth bar

Push the earth bar into the disconnection strip, with the connecting rail on the equipment or **clean** side of the disconnection strip. Make sure that the earth bar is firmly clipped into the earth point (see Figure 3) with the clip or jaws at each end of the earth bar gripping the disconnection strip's earth point.

This will provide the ESP Protector with a substantial connection to earth.

CAUTION: Be sure that the ESP KE10 is installed the right way round, with the connecting rail on the equipment or clean side of the disconnection strip.

Push an ESP Protector into each line requiring protection

Firmly push one ESP KT1, ESP KT1/PTC or ESP KT2 Protector into each line (or pair) requiring protection, so that it clips securely onto the earth bar (see Figure 4).

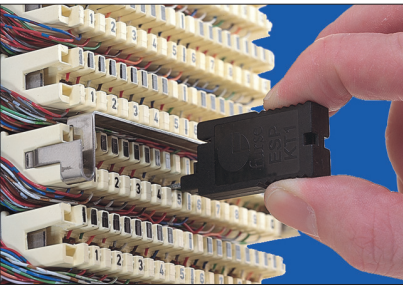


Figure 4: ESP KT1 being plugged into the disconnection module, and connection into ESP KE10.

Note how the side of the ESP Protector marked **clean** is on the equipment side of the disconnection strip and that the **line** side of the ESP Protector is on the side of the disconnection strip which connects to the outside world.

WARNING: On no account should an ESP KT1, ESP KT1/PTC or ESP KT2 on one disconnection strip be clipped onto the earth bar on a neighbouring disconnection strip.

If installing both the black ESP KT1 (or ESP KT1/PTC) and the white ESP KT2 protectors on the same distribution frame, be sure to install them on the appropriate lines.

Each ESP Protector is supplied with a small blank label for line identification data to be recorded.

You may find it helpful to mark these and stick them onto the ESP Protector prior to installing it.

(b) ESP K10T1 / ESP K10T1/PTC and ESP K10T2

Identify which lines require protection

Each disconnection strip which contains lines which connect with the outside world provides transient overvoltages with a route into the electrical system.

Protection must therefore be installed on each of these disconnection strips.

Identify:

- (i) all strips which contain incoming lines from your telecommunications provider, and
- (ii) any strips providing telephone lines to another building (eg PBX extensions)

Remove any label holders, magazines & GDTs from the disconnection strip

If the disconnection strips requiring protection are already populated with label holders, magazines or gas discharge tubes (see Figure 2) these must be removed before the Furse ESP K10T1, ESP K10T1/PTC or ESP K10T2 can be installed.

