

**INTRODUCTION**

These installation instructions explain how to use WBX enclosures for Furse ESP products.

The protector(s), or Combined Mounting & Earthing (CME) kit(s), is simply mounted on the enclosure's metal base plate or DIN rail, which is in turn mounted in the enclosure.

To simplify installation we have written a different procedure for each similar group of enclosures, including:

**WBX 2/G, WBX 3, WBX 3/G, WBX 4, WBX 4/GS, WBX 8, WBX 8/GS, WBX 16/2/G, WBX M2, WBX M4, WBX D4, WBX D8, WBX SLQ, WBX SLQ/G**



**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 électrotechnique.

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

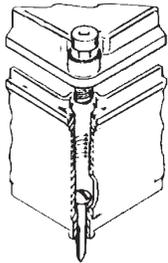


Figure 1: WBX and WBX M enclosure bases are constructed with fixing holes at each corner.

**2. Before installation**

2.1 Ensure that the WBX enclosure selected is appropriate for the ESP protector(s) to be enclosed:

	Appropriate Protector
WBX 2/G	1 or 2 single earth stud protector(s)
WBX 3, WBX 3/G	1 Single phase ESP M1 Series protector, or up to 3 single earth stud protector(s), or 1 double earth stud protector
WBX 4, WBX 4/GS	1 Three phase ESP M1 Series protector, or 1 CME 4 & associated protectors
WBX 8, WBX 8/GS	1 CME 8 & associated protectors
WBX 16/2/G	1 or 2 CME 16 & associated protectors
WBX M2	1 ESP M2 Series protector
WBX M4	1 ESP M4 Series protector
WBX D4	1 Single phase D1 Series protector, or 1 ESP 240 or 415/XXX/TNS or TNC protector
WBX D8	1 Three phase D1 Series protector, or 1 ESP 240 or 415/XXX/TT protector
WBX SLQ, WBX SLQ/G	15 x ESP**SL-series or 6 x ESP**Q-series protectors

2.2 Ensure the pack contents include the relevant screws and fixings for mounting the ESP protector to the enclosure.

Where stated, plastic screws fix the lid to the base, self tapping screws fix the base plate to the base and pan head slotted screws fix the protector to the base.

	Contents
WBX 2	Enclosure base & grey lid, 4 grey plastic screws, metal base plate, 2 No 4 x 5/8" self tapping screws
WBX 3, WBX 3/G	Enclosure base, enclosure lid (WBX 3 - clear; WBX3/G - grey), 4 grey plastic screws, metal base plate, 2 No 8 x 3/8" self tapping screws, 5 M5 pan head slotted screws (3 x 30 mm/2 x 8 mm), 3 M5 flat washers
WBX 4, WBX 4/GS	Enclosure base, enclosure lid (WBX 4 - clear; WBX 4/GS - grey), 4 grey plastic screws, 4 secure head grey plastic screws & tool (WBX 4/GS only), metal base plate, 4 No 8 x 3/8" self tapping screws, 8 M5 pan head slotted screws (4 x 30 mm/4 x 8 mm), 4 M5 flat washers
WBX 8, WBX 8/GS	Enclosure base, enclosure lid (WBX 8 - clear; WBX 8/GS - grey), 4 grey plastic screws, 4 secure head grey plastic screws & tool (WBX 8/GS only), metal base plate, 4 No 8 x 1/2" self tapping screws, 4 M4 6 mm long plastic spacers
WBX 16/2/G	Enclosure base & grey lid, 4 grey plastic screws, 2 metal base plates, 8 No 4 x 1/2" self tapping screws

	Contents
WBX M2, WBX M4	Enclosure base & clear lid, 4 grey plastic screws, metal base plate, 4 No 14 x 1/2" pozi pan head Z&P self tapping screws, 4 M6 plain washers, 4 M6 spring washers, 4 M5 pan head slotted screws, 4 M5 flat washers
WBX D4, WBX D8	Enclosure base & hinged clear lid, 4 steel screws
WBX SLQ	Enclosure base and clear lid, fitted DIN rail
WBX SLQ/G	Enclosure base and grey lid, fitted DIN rail

Not included: Screws and fixings for mounting the enclosure. Suitable fixings should be used dependent on the mounting surface (eg solid wall, cavity etc).

For ease of reference, the following sections on installation of WBX enclosures have been separated according to the process through which the enclosures are installed.

The relevant groupings are as follows:

	Reference Page
WBX 2/G, WBX 3, WBX 3/G, WBX 4, WBX 4/GS	See section 3

WBX 8, WBX 8/GS, WBX 16/2/G	See section 4
WBX M2, WBX M4	See section 5
WBX D4, WBX D8	See section 6
WBX SLQ, WBX SLQ/G	See section 7

**Note: When installing WBX enclosures and making connections to ESP protectors, do NOT use power driven screwdrivers.**

**3. Installation -**

**WBX 2/G, WBX 3, WBX 3/G, WBX 4, WBX 4/GS**

**3.1 Make a conduit entry**

Conduit entries can be drilled or cut at any point along the sides of the enclosure base. To retain the enclosure's IP rating, appropriate glands must be used on all cable entries.

**3.2 Fix the protector(s) to the base plate**

**(a) WBX 2/G**

Mark the required fixing positions on the base plate, drill holes and fix the protector(s) to the base plate.

**(b) WBX 3, WBX 3/G**

The enclosure base plate is predrilled for the installation of either:

- one ESP 120 M1 or ESP 240 M1

- one, two or three 'single earth stud' protectors

Fix the protector to the base plate (3 x M5 30 mm long pan head slotted screws suitable for the installation of ESP 120 M1 or 240 M1 are included, together with 3 x M5 flat washers).

**(c) WBX 4, WBX 4/G**

The enclosure base plate is predrilled and prepared with caged nuts for the installation of either:

- one ESP 120 M1 or ESP 240 M1
- one ESP 208 M1 or ESP 415 M1

- one CME 4 and associated protectors

Note how the base plate is formed to raise it up from the enclosure base (to prevent the caged nuts from fouling on the base). It is this side of the base plate which sits on the enclosure base.

Fix the protector (using the most appropriate M5 pan head slotted screws and M5 flat washers provided) or the CME kit (which contains the necessary screws) to the base plate.

**3.3 Fix the base plate to the base**

Screw the enclosure base plate to the base using the self tapping screws provided.

	Self Tapping Screws
WBX 2/G	2 x No 4 x 5/8"
WBX 3, WBX 3/G	2 x No 8 x 3/8"
WBX 4, WBX 4/GS	4 x No 8 x 5/8"

**3.4 Mount the enclosure base to a flat surface**

The enclosure has preprepared mounting holes at each corner, with the following fixing centres:

	Fixing Centres
WBX 2/G	148 x 90 mm
WBX 3, WBX 3/G	210 x 60 mm
WBX 4, WBX 4/GS	215 x 140 mm

Taking care to position the enclosure so that it fulfils the location requirements of the protector(s), mark the fixing centres on the host surface, drill holes and screw the enclosure to the flat surface (see Figure 1). Different surfaces require different types of screw. Ensure an appropriate type of screw and fixing is selected for mounting the enclosure onto the flat surface.

**3.5 Connect the protector(s)**

Make all necessary electrical connections to

the protector(s). Hand tighten - do not use power driven screwdrivers.

**3.6 Push the grey plastic screws into the lid**

Line up the flat portions on the grey plastic lid screws with the corresponding flat portions in the corner lid fixing holes. Then press on the screw heads to force the two small captivation tags past the flat portions in the lid fixing holes.

**3.7 Secure the lid to the enclosure base**

Place the lid over the base, ensuring that it seats correctly and then tighten the lid screws. Only moderate tightening of the screws is necessary for an effective seal - do not use power driven screwdrivers. Figure 2 shows how all components fit together.

**4. Installation -**

**WBX 8, WBX 8/GS, WBX 16/2/G**

**4.1 Make a conduit entry**

Conduit entries can be drilled or cut at any point along the sides of the enclosure base. To retain the enclosure's IP rating, appropriate glands must be used on all cable entries.

Figure 2: Expanded illustration showing ESP 415 M1 mounting to a WBX enclosure.



**4.2 Fix the CME to the base plate**

**(a) WBX 8, WBX 8/GS**

The enclosure base plate is predrilled for the installation of a CME 8 and associated protectors.

Fix the CME kit (which contains the necessary screws) to the base plate.

**(b) WBX 16/2/G**

This enclosure is supplied with two base plates - you will need to use one to install one CME 16 and both to install two CME 16s. Each base plate is predrilled for the installation of a CME 16 (and associated protectors).

Fix the CME kit (which contains the necessary screws) to the base plate.

When installing one CME 16 in the enclosure, fix it to the centre of the base plate.

When installing two CME 16s in the same enclosure, fix each to the off-centred holes on the base plate.

#### 4.3 Fix the base plate to the base

##### (a) WBX 8, WBX 8/GS

Using the four No 8 self tapping screws and spacers, fix the enclosure base plate to the base.

##### (b) WBX 16/2/G

Using four self tapping screws for each, screw the enclosure base plate(s) to the base. When installing one CME 16 in the enclosure, screw it to the centre of the base. When installing two CME 16s in the same enclosure, position them off-centre with the CME 16s away from each other, and screw them to the base.

#### 4.4 Mount the protectors onto the CME

For the WBX 8 or WBX 8/GS, mount the protectors onto the CME 8.

For the WBX 16/2/G, mount the protectors onto one or both of the CME 16s as installed.

#### 4.5 Mount the enclosure base to a flat surface

The enclosure has preprepared mounting holes at each corner, with the following fixing centres:

	Self Tapping Screws
WBX 8, WBX 8/GS	215 x 215 mm
WBX 16/2/G	380 x 310 mm

Taking care to position the enclosure so that it fulfils the location requirements of the protector(s), mark the fixing centres on the host surface, drill holes and screw the enclosure to the flat surface (see Figure 1). Different surfaces require different types of screw. Ensure an appropriate type of screw and fixing is selected for mounting the enclosure onto the flat surface.

#### 4.6 Connect the protector(s)

Make all necessary electrical connections to the protector(s). Hand tighten - do not use power driven screwdrivers.

#### 4.7 Push the grey plastic screws into the lid

Line up the flat portions on the grey plastic lid screws with the corresponding flat

portions in the corner lid fixing holes. Then press on the screw heads to force the two small captivation tags past the flat portions in the lid fixing holes.

#### 4.8 Secure the lid to the enclosure base

Place the lid over the base, ensuring that it seats correctly and then tighten the lid screws. Only moderate tightening of the screws is necessary for an effective seal - do not use power driven screwdrivers.

#### 5. Installation -

##### WBX M2, WBX M4

##### 5.1 Make a conduit entry

Conduit entries can be drilled or cut at any point along the sides of the enclosure base. To retain the enclosure's IP rating, appropriate glands must be used on all cable entries.

##### 5.2 Fix the base plate to the base

Using the self tapping screws, the plain M6 washers and the spring washers, fix the base plate to the base.

Note how the base plate is formed to raise it up from the enclosure base (to prevent the caged nuts from fouling on the base). It is this side of the base plate which sits on the enclosure base.

##### 5.3 Screw the protector to the base plate

Using the M5 screws and washers, screw the protector to the caged nuts on the base plate.

##### 5.4 Mount the enclosure base to a flat surface

The enclosure has preprepared mounting holes at each corner, with 254 x 254 mm fixing centres.

Taking care to position the enclosure so that it fulfils the location requirements of the protector, mark the fixing centres on the host surface, drill holes and screw the enclosure to the flat surface (see Figure 1). Different surfaces require different types of screw. Ensure an appropriate type of screw and fixing is selected for mounting the enclosure onto the flat surface.

##### 5.5 Connect the protector

Make all necessary electrical connections to the protector. Hand tighten - do not use power driven screwdrivers.

##### 5.6 Push the grey plastic screws into the lid

Line up the flat portions on the grey plastic lid screws with the corresponding flat portions in the corner lid fixing holes.

Then press on the screw heads to force the two small captivation tags past the flat portions in the lid fixing holes.

#### 5.7 Secure the lid to the enclosure base

Place the lid over the base, ensuring that it seats correctly and then tighten the lid screws. Only moderate tightening of the screws is necessary for an effective seal - do not use power driven screwdrivers.

#### 6. Installation -

##### WBX D4, WBX D8

##### 6.1 Make a conduit entry

Conduit entries can be drilled or cut at any point along the sides of the enclosure base (a range of standard knockouts, eg M20, are positioned along the sides and top of the enclosure).

To retain the enclosure's IP rating, appropriate glands must be used on all cable entries.

##### 6.2 Fix the protector to the base

The base incorporates a TS35 'top hat' DIN rail. Simply clip the protector to this DIN rail to fix in position.

##### 6.3 Mount the enclosure base to a flat surface

The enclosure has preprepared mounting holes, with two 140 mm fixing positions

fitted centrally (WBX D4) or four 140 x 88 mm fixing positions in the corners (WBX D8).

Taking care to position the enclosure so that it fulfils the location requirements of the protector, mark the fixing centres on the host surface, drill holes and screw the enclosure to the flat surface. Different surfaces require different types of screw. Ensure an appropriate type of screw and fixing is selected for mounting the enclosure onto the flat surface.

##### 6.4 Connect the protector

Make all necessary electrical connections to the protector. Hand tighten - do not use power driven screwdrivers.



Figure 3:  
ESP D1/LCD unit mounted in a WBX D8 enclosure, next to a main distribution panel. Note the protector and enclosure are mounted sideways, with the text rotated on the LCD display for normal viewing. For best practice use short connecting leads.

#### 6.5 Cut the display opening to suit the protector

Depending on the protector fitted, the display opening can have sections removed to suit the installation. A sharp knife is suitable for this purpose.

#### 6.6 Secure the lid to the enclosure base

Place the lid over the base, ensuring that it seats correctly and then tighten the lid screws. Only moderate tightening of the screws is necessary for an effective seal - do not use power driven screwdrivers.

#### 7. Installation

##### WBX SLQ, WBX SLQ/G

##### 7.1 Make a conduit entry

Conduit entries can be drilled or cut at any point along the side of the enclosure base. To retain the enclosure's IP rating, appropriate glands must be used on all cable entries.

##### 7.2 Fix the protector(s) to the DIN rail.

You can fit up to 6 x ESP\*\*Q or 15 x ESP\*\*SL (or a combination), simply by clipping the products onto the DIN rail.

##### 7.3 Mount the enclosure base to a flat surface.

The enclosure has mounting holes at each corner, with 235 x 110 mm fixing centres.

Mark, drill and screw the enclosure to the flat surface.

##### 7.4 Connect the protector

Make all necessary electrical connections to the protector.

Hand tighten - do not use power driven screwdrivers.

##### 7.5 Push the grey plastic screws into the lid

Line up the flat portions on the grey plastic lid screws with the corresponding flat portions in the corner lid fixing holes.

Then press on the screw heads to force the two small captivation tags past the flat portions in the lid fixing holes.

##### 7.6 Secure the lid to the enclosure base

Place the lid over the base, ensuring that it seats correctly and then tighten the lid screws. Only moderate tightening of the screws is necessary for an effective seal - do not use power driven screwdrivers.



WBX, WBX M & WBX D Series  
boxes  
for weatherproof  
INSTALLATION INSTRUCTIONS



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#### Environment

Consider the protection of the environment!  
Used electrical and electronic equipment must NOT be disposed of with domestic waste. The device contains valuable raw materials which can be recycled. Therefore, contact ABB for disposal of this equipment.

