

# IN0017: U-Pillar (Underground Service Pillar) Installation Instructions

## Purpose

The purpose of this document is to provide installation instructions for the Hiko Power Engineering range of pre-assembled U-Pillars (Type UDPXX02BXXX 63A/100A/160A).

This U-Pillar is intended for electricity distribution network applications located in public areas.

***In addition to these instructions, installation must comply with any other relevant general or site specific: regulations, standards, and environmental and safety requirements, including safe work practices, as specified in local and/or national work instructions or codes.***

## Scope

Range of U-Pillars covered by these instructions includes:

- UDPXX02
- Lid load class B as defined below
- Power configurations (63A/100A/160A)

U-Pillar components supplied consist of:

- Pit and lid for in-ground installation.
- Insulated bell complete with lockable/retention bar.
- Waterproof/sealed pre-assembled in-coming and out-going cable tails
- Preassembled LV switch/fuse gear on insulated stand



***This work instruction assumes all installation works will be undertaken by appropriately trained and qualified installers of the U-Pillar product.***

## Important Safety Information

- Wear appropriate personal protective equipment.
- Ensure all electrical components are isolated before making connections. Do not work on an energised system.
- Complete a risk assessment prior to commencing site work.
- Adhere to this work instruction for the installation of the U-Pillar.
- Unauthorised modification of the safety critical components such as the lid, structural supporting components, or sealing components is not permitted. If in doubt, contact Hiko for advice.
- Do not use U-Pillar if damaged. Always inspect for any visible signs of damage both prior to, and following, installation.
- Do not clean U-Pillar with a high-pressure cleaner.

## U-Pillar Technical Information

Tabulated below is dimensional, approximate weight and cable data for the U-Pillars.

U-Pillar Product Numbers	Approximate Weight (kg)	External Dimensions (mm)			Cables (mm <sup>2</sup> )	
	Complete unit including switch/fuse gear and tails	Length	Width	Height	Incomers	Services
UDP02B063	20	375	375	613	25	16
UDP02B100	20	375	375	613	25	16
UDP02B160	25	375	375	613	70	70

***Pre-assembled cable tails are supplied for jointing to network / service cables. These pre-assembled cable tails are water-tight and must not be cut or removed. Hiko should be consulted prior to the installer undertaking any change or addition to the cable tails.***


***Any additional network / service cable tails that are connected directly to the switchgear must be terminated with water-tight lugs and seals.***

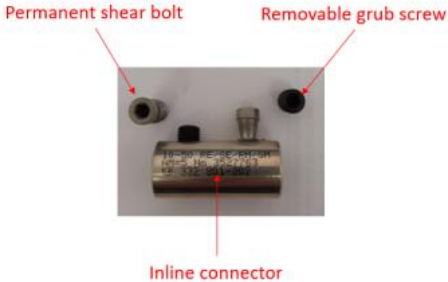
The U-Pillar is supplied with a lid rated according to AS3996 in line with the maximum load the U-Pillar will be subjected to in everyday use.

Lid load class	Ultimate limit design load (KN)	Nominal wheel loading (kg)	Typical traffic conditions
"B" – Light Duty	80	2,670	Footpaths and driveways

## U-Pillar Installation

Below are step by step instructions for the physical installation of the Hiko Power Engineering range of U-Pillars. Instructions are standard across the range of U-Pillars unless specifically noted otherwise.

No.	Description
1	<p><u>Preparing the site</u></p> <ul style="list-style-type: none"> <li>○ Complete a risk assessment of the surrounding area.</li> <li>○ Determine required depth of hole as specified in step 2. (Confirm final handover ground levels to assist with determining the required depth of hole).</li> </ul> <p><b>Note: final ground level may vary between construction and handover stage</b></p>
2	<p><u>Excavating</u></p> <ul style="list-style-type: none"> <li>○ Excavate a hole suitable for the pit</li> </ul> <p><b>For U-Pillar installations the minimum clearance is 100 mm.to all four sides and base of the pit.</b></p> <p><b>i.e. For all U-Pillar types located within a footpath, driveway or berm, the hole must be at least 575 x 575 x 700 mm deep.</b></p> <p><b>Ensure the ends of the excavation will match up to the feed and supply cable trenches.</b></p>
3	<p><u>Forming Base Level</u></p> <ul style="list-style-type: none"> <li>○ Using compacted hard fill, form a level base layer in the hole to a depth such that when positioned, the top of the U-Pillar will correctly align with the finished ground level.</li> </ul> <p><b>Ensure the compacted base layer meets the minimum depths noted above (step 2)</b></p> <p><b>Note: Compaction of all backfilled materials, including the initial base layer, must be undertaken in accordance with specified compaction criteria for the U-Pillar location at hand. Refer to the relevant standards for the necessary compaction data.</b></p> <p>The U-Pillar will function satisfactorily up to 5 degrees off the horizontal</p> 
4	<p><u>Preparing the U-Pillar</u></p> <ul style="list-style-type: none"> <li>○ Visually inspect the U-Pillar for any signs of damage prior to installation</li> <li>○ Tape service side flexible cable tails for future use back to the pit for protection if final service connections are not scheduled to be undertaken as part of the U-Pillar installation.</li> </ul>

No.	Description
5a	<p><b><u>Placing and Connecting the U-Pillar</u></b></p> <ul style="list-style-type: none"> <li>○ Lower the pit centrally into the hole using a suitable lifting method.</li> <li>○ Orientate the pit parallel to property boundary or kerb (whichever is closest)</li> <li>○ Ensure orientation is such that service tails align correctly</li> <li>○ Backfill and compact the hard fill in the hole around the pit up to the levels of the cable entries.</li> </ul> <p><b><i>Compaction to be carried out in accordance with the relevant standards as required by the location.</i></b></p> <ul style="list-style-type: none"> <li>○ Connect the flexible cable tails to service and or network cables using suitable in-line joints.</li> <li>○ When all connections complete, backfill and compact around pit to a level approx. 100mm below FFL.</li> </ul>
5b	<p><b><u>BTS Instruction</u></b></p> <p>If the U-Pillar is to be used as a BTS the shear bolts must be removed from the inline connectors and replaced with replaceable grub screws to fix the temporary BTS cables. Once the BTS has served its function and the U-Pillar is to be used as a permanent supply, the temporary grub screws must be removed and the original shear bolts re-instated to permanently connect the permanent cables.</p> <div style="text-align: center;">  </div>
6	<p><b><u>Securing U-Pillar</u></b></p> <ul style="list-style-type: none"> <li>○ Check the bell locking/retention bar is correctly installed and secured.</li> </ul> <p><b><i>Ensure the lid is orientated so that the writing on top of the lid is reading left to right while viewed from the road</i></b></p> <ul style="list-style-type: none"> <li>○ Secure the lid in place using the two supplied M8 torx screws.</li> </ul>
7	<p><b><u>Final Backfilling and Reinstatement</u></b></p> <ul style="list-style-type: none"> <li>○ Fill the final stage of the hole around the U-Pillar with hard-fill</li> <li>○ Compact hard fill according to the relevant standards, or other surface finish as required by the location.</li> </ul>

