

U-PILLAR Underground Service Connection Box

Branching, looping and conduit versions available

New Zealand Patent No. 813092

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The Hiko U-Pillar is a new concept in service connections for branching and looping networks. Building on Hiko's expertise in underground switchgear, the U-Pillar delivers a simple, robust, secure, cost effective and fully underground solution for 63 A / 100 A service fuses and 160 A DIN standard disconnects.

In the U-Pillar, fusegear is locked and protected below ground level in an air chamber, where it is kept clean and dry, even in flood conditions.

The unique design also provides for safe and convenient inspection and maintenance above ground level, without the need to pump out water.

Another key feature of the U-Pillar is the free movement of air around the fusegear, which eliminates concerns around operational safety and long-term reliability associated with other underground solutions that rely on so-called "waterproof" fuse housings. These typically include seals that may be vulnerable to the pressure cycling that occurs as the temperature of the service fuse varies between hot and cold. When air is drawn in, moisture condenses inside the housing, and is not expelled when the fuse

heats up again. Water in contact with a fuse causes operational hazards, reduced asset lifetime, and elevates the risk of in-service failure.

The U-Pillar comes complete with water-blocked, pre-terminated flexible tails for both the incomer and service supplies, so network operators can be certain that the integrity of the asset is not compromised by water ingress via a damaged or poorly maintained service cable. And service connection contractors do not need to open the box.

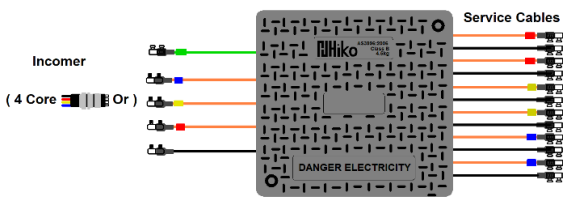
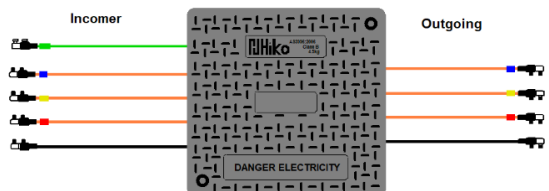
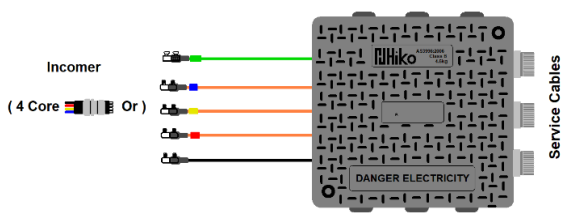
The reinforced lid of the U-Pillar is extremely robust, for installation in footpaths and driveways.

The pit is shaped to provide structural strength and long-term stability. Materials used are benign to the environment, and resistant to engine oil, petrol and diesel.

U-Pillar Features

- Current rating from 63A to 160A
- Single or four core connections for branching network
- From 1 to 6-way service connection
- Single core connection for looping network
- U-Pillar is an Arc Initiation Protected Zone
- IP: IP4x / Flammability: UL94
- Service connection: single phase or three phase
- Looping maximum current rating: 230A
- Dimension: 375mm x 375mm
- Lid load: class B and D
- Designed to have an air chamber (water bell principle) for switch gear to guard against underground water level
- Unique design provides a “pull up” feature to allow inspection, maintenance and later connection above ground level
- Conduit U-Pillar also provides 1-to-3-way internal connection solution for drive way and footpath
- Service cable can be changed to any three directions of U-Pillar

U-Pillar Models

U-PILLAR MODELS - BRANCHING NETWORKS		
Hiko Code	Description	U-Pillar Design Image
UDPxx02x063/100xx	63A 1 to 6 way/100A 1 to 4 way	 <p>The diagram shows a grey U-Pillar unit with a 'DANGER ELECTRICITY' warning. On the left, four incoming cables (labeled 'Incomer') are connected, with a note '(4 Core [color-coded] Or)'. On the right, multiple service cables (labeled 'Service Cables') are shown exiting the unit.</p>
UDPxx02G160xx	160A 1 x 3P	 <p>The diagram shows a grey U-Pillar unit with a 'DANGER ELECTRICITY' warning. On the left, three incoming cables (labeled 'Incomer') are connected. On the right, three outgoing cables (labeled 'Outgoing') are shown exiting the unit.</p>
UDPxx02x100Cx	100A 1-to-3-way conduit	 <p>The diagram shows a grey U-Pillar unit with a 'DANGER ELECTRICITY' warning. On the left, four incoming cables (labeled 'Incomer') are connected, with a note '(4 Core [color-coded] Or)'. On the right, service cable gromets (labeled 'Service Cable Gromets') are shown, with a note 'Service Cables'.</p>

U-PILLAR MODELS - LOOPING NETWORKS		
Hiko Code	Description	U-Pillar Design Image
UDPxx02x063/100Lx	63A 1 to 6 way/100A 1 to 4 way	<p>The diagram shows a central U-Pillar unit with two looping configurations. Looping #1 (left) shows a Network Cable entering from the left, connecting to the top of the pillar, and then looping back to the bottom. Looping #2 (right) shows a Network Cable entering from the right, connecting to the top of the pillar, and then looping back to the bottom. Service Cables are shown at the bottom of the pillar, connected to the bottom of the looping cables. A 'DANGER ELECTRICITY' warning is visible on the pillar.</p>
UDPxx02G160Lx	160A 1 x 3P	<p>The diagram shows a central U-Pillar unit with two looping configurations. Looping #1 (left) shows a Network Cable entering from the left, connecting to the top of the pillar, and then looping back to the bottom. Looping #2 (right) shows a Network Cable entering from the right, connecting to the top of the pillar, and then looping back to the bottom. Service Cables are shown at the bottom of the pillar, connected to the bottom of the looping cables. A 'DANGER ELECTRICITY' warning is visible on the pillar.</p>

Mechanical Specifications

Parameter	Test method	Requirement	Comments
Lid load class	AS3996	Class B080 (8 tonnes) Class D (40 tonnes)	Suitable for footpaths and driveways (nominal wheel loading 2,670 kg)
Lid slip resistance	AS/NZS4586	Classification V (P5)	Represents a very low risk of slipping when wet
Colour	-	Black	Other colours available on request
Weather resistance	ASTM D2565 / ISO 4892-2	Greater than UV8	Long term UV stable
Chemical resistance	-	Engine oil, petrol, diesel	Maintains structural integrity after exposure to small and occasional spills
Flammability	UL94	HB	Very difficult to ignite without a sustained source of ignition
Thermal stability	AS/NZS4766	Pass	Melt flow index remains within $\pm 20\%$ after 100 days at 100°C

Materials

Component	Material	Comments
Lid	Polyethylene	UV stabilised grade UV20
Pit	Polyethylene	UV stabilised grade UV8
Bell	Polycarbonate	-
Stand	Polycarbonate	-
Fusegear holders	ABS, various	-
Fixtures and fittings	Stainless steel	304, (1.4301)
Cable insulation	Thermoset elastomeric PVC	Submersible, splash resistant to petrol and oil, ozone resistant, abrasion resistant

Configurations & Dimensions

Branching Connection

Hiko Code	Number of Services					Approx Weight	Cable Tail Sections (mm²)		In-Line Connectors (mm²)	
	63A		100A	160A			Incomers	Service	Incomers	Service
	1-Phase	3-Phase	1-Phase	1-Phase	3-Phase					
UDP02A100xx			1			14.4	25*	16	10-50	10-50
UDP02B100xx			2			15.3				
UDP02C100xx			3			16.2				
UDP02D100xx			4			17.1				
UDP02E063xx	5					17.6				
UDP02F063xx	6					19.0				
UDP02F063xx		2x3P				19.0				
UDP02F063xx		1x3P+1x1P				19.0				
UDP02F063xx		1x3P+2x1P				19.0				
UDP02F063xx		1x3P+3x1P				19.0				
UDP02G160xx				3x1P		25.0	70	70	50-185SM	50-185SM
UDP02G160xx					1x3P	25.0				

* Incomer cable has two options – single core cable 25mm² or 4-core cable 25mm²

Conduit Connection

Hiko Code	Number of Services	Approx Weight	Cable Tail Sections (mm ²)		In-Line Connectors (mm ²)	
	100A 1-Phase	(kg)	Incomers	Service	Incomers	Service
UDP02A100Cx	1	14.4	25*	16	10-50	10-50
UDP02B100Cx	2	15.3				
UDP02C100Cx	3	16.2				

* Incomer cable has two options – single core cable 25mm² or 4-core cable 25mm²

Looping Connection*

Hiko Code	Number of Services					Approx Weight	Cable Tail Sections (mm²)		In-Line Connectors (mm²)	
	63A		100A	160A			Looping	Service	Looping	Service
	1-Phase	3-Phase	1-Phase	1-Phase	3-Phase					
UDP02A100Lx			1			14.4	70	16	50-185SM	10-50
UDP02B100Lx			2			15.3				
UDP02C100Lx			3			16.2				
UDP02D100Lx			4			17.1				
UDP02E063Lx	5					17.6				
UDP02F063Lx	6					19.0				
UDP02F063Lx		2x3P				19.0				
UDP02F063Lx		1x3P+1x1P				19.0				
UDP02F063Lx		1x3P+2x1P				19.0				
UDP02F063Lx		1x3P+3x1P				19.0				
UDP02G160Lx				3x1P		25.0	70			50-185SM
UDP02G160Lx					1x3P	25.0				

* Looping CU cable maximum size 70mm² and maximum looping current rating 230A

Options

Security bolts / internal padlock

Identification (on lid and bell)

Incomer and service cable tail lengths (0.2 m and 0.5 m as standard)¹Branch joint²

Service fuses

Street lighting and other auxiliary supplies

Notes¹ Capped incomer and water-blocked service connectors included as standard² Hiko product code KP8033 (Pfisterer ISICOMPACT single-shear-bolt connector and resin joint kit) for main 50-240 / branch 10-70mm²**Other literature available on request**

Reports, drawings, technical data sheets, installation instructions, O&M guidelines



Scan this QR code to watch the U-Pillar video animation.

