HONG TAI ELECTRIC INDUSTRIAL CO., LTD. Since 1968

Pre-Branch Cables

Safe

Environmentally Friendly

Convenient

Think Ahead Choose Wisely

Pre-branch cable during installation:

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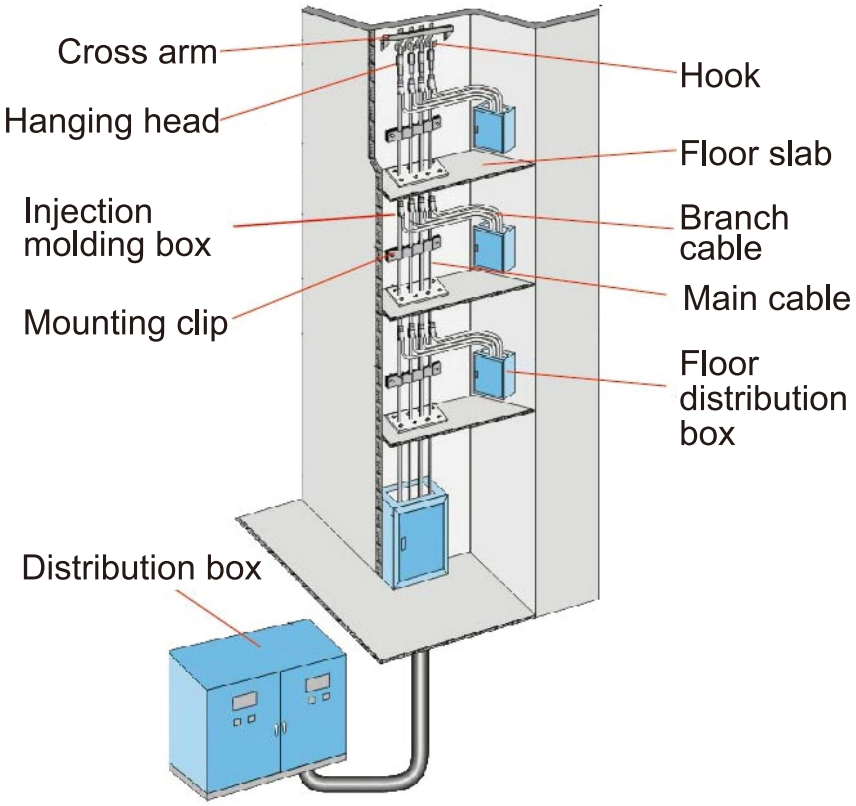
Pre-branch cable installation diagram



The passage of time and growing prosperity have led to more and higher buildings being built, resulting in greater electricity consumption. In the course of this development, it has also become increasingly difficult to wire buildings. The timely introduction of pre-branch cables has greatly reduced the installation time for trunk lines and the overall cost of construction projects.

Pre-branch cables are manufactured by matching the main cable and the pre-connected branch cables to their corresponding locations, dimensions, and paths in the building and connecting them in advance in the factory to form a complete cable set. Pre-branch cables are suitable for vertical power supplies in high-rise buildings, but can also be laid horizontally.

The branch connections of pre-branch cables are injection molded using a PVC mixture. In this way, the resulting one-piece construction of the PVC sheathing on the cable and the injection molded PVC connections are airtight and waterproof.

The tip of the trunk cable is treated with a water-proof compound and a PVC cap, reinforced with a heat shrink sleeve, and fixed in position with brackets or cable bolts for permanent use.

Advantages of pre-branch cables:

1. Lower costs: The cost of installation, including the cost of personnel and materials, is greatly reduced by saving on on-site labor.
2. Shorter installation times: Most of the work that used to be done on site is now done in the factory. Therefore, less labor and time is required on site.
3. High quality: Branching and other important work that affect the electrical and physical performance of systems is carried out in a factory with proper arrangements and strict quality control. Such a working environment results in more consistent quality.
4. Simplification of site management: Pre-branch cables are coiled and neatly arranged on a reel to simplify on-site construction work. This simplifies site management, including planning the construction and purchasing and storing the necessary equipment.
5. Reduced channel space: Channels used only for running pre-branch cables can be made with smaller clearances, allowing for more efficient use of space. In addition, fewer fireproof materials are required to comply with fire-protection measures when penetrating floors.
6. Airtight and waterproof design: Pre-branch cables can be used in humid locations as the tips of branch connectors and trunk cables are airtight and waterproof.
7. Phase identification: Both trunk cables and branch cables can be color-coded for easy phase identification.
8. No need to set up pillars: Pre-branch cables can be fixed on the wall with cable bolts or brackets, eliminating the need for support pillars and saving costs.

Pre-branch cable specification sheet

Trunk cable					Branch cable					Branch connector	
Conductor nominal cross-sectional area	Finished external diameter of single-core cable				Conductor nominal cross-sectional area	Finished external diameter of single-core cable				Molded insulation thickness	
	CV		VV			CV		VV		CV	VV
	A	B	A	B		A	B	A	B	mm	mm
mm^2	mm	mm	mm	mm	mm^2	mm	mm	mm	mm		
22	9.8	9.3	12.5	12.0	5.5	5.6	-	8.0	-	2.1	3.1
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
38	12.1	11.6	14.5	14.0	5.5	5.6	-	8.0	-	2.4	3.3
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
60	15.6	14.9	17.0	16.0	5.5	5.6	-	8.0	-	2.8	3.3
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
100	18.5	17.5	20.0	19.0	5.5	5.6	-	8.0	-	2.8	3.5
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
					22	9.8	9.3	12.5	12.0		
150	23.4	22.0	24.0	23.0	5.5	5.6	-	8.0	-	3.7	3.8
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
					22	9.8	9.3	12.5	12.0		
200	25.5	24.3	27.0	26.0	5.5	5.6	-	8.0	-	3.7	4.1
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
					22	9.8	9.3	12.5	12.0		
250	28.0	26.3	30.0	28.0	5.5	5.6	-	8.0	-	3.7	4.2
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
					22	9.8	9.3	12.5	12.0		
325	31.4	29.7	33.0	31.0	5.5	5.6	-	8.0	-	4.1	4.5
					8	6.6	6.4	9.0	8.8		
					14	8.6	8.2	11.0	10.5		
					22	9.8	9.3	12.5	12.0		

CV: XLPE-insulated and PVC-coated power cables that comply with CNS 2655;
VV: PVC-insulated and sheathed cables that comply with CNS 3301;
A: Non-compact conductor;B: Compact conductor

To supply pre-branch cables to your satisfaction, please provide us with the following information:

- ■System diagram: The length of trunk cables and branch cables as well as the configuration of branch connectors
- ■Power distribution system: Rated voltage, number of phases, number of lines
- ■Trunk cable: Type, form, conductor size
- ■Branch cable: Conductor size
- ■Top support: Is a cable tensioning device required?
- ■Laying method: Are you planning to pull the cables upwards from the ground or downwards from the top?
- ■Axis: Allowable dimensions and total weight
- ■Accessories: Cable bolts, brackets, etc.
- ■Other essential items

□Construction of pre-branch cables:

Item	Rated Voltage	Cable type	Number of cores
Trunk cable	600V	CV, VV, IV	Single- or multi-core cable
Branch cable		CV, VV, IV	Single core by default
Branch connector	Connector → type C copper crimp sleeve		
Branch head	Injection-molded insulation material (90°C PVC material)		

1.Trunk cable

2.Lifting device: If the vertical weight is less than 500 kg, a net is used.
If the vertical weight is greater than 500 kg, a compression clamp (bell type) is used.

3.Branching:

Branch cable:

■The conductor cross-sectional area is smaller than that of the trunk cable

■The cut length must be 0.3 m longer than the effective length.

■In principle, each branch point of the same trunk cable can only be connected to two branch cables of the same specification and in the same direction.

■Branch connector:

The thickness of the molded insulation should be greater than the total thickness of the trunk cable insulation and sheath.

◆Types of pre-branch cables:

Divided by cable category:CV: XLPE-insulated PVC-sheathed cables
VV: PVC-insulated PVC-sheathed cables
Fire-resistant cables can be used when powering emergency power supply systems for fire safety equipment

Divided by number of strands: Single **S**
2-strand twisted **D**
3-strand twisted **T**
4-strand twisted **Q**

◆Construction precautions

◆Confirm the specifications of trunk cables and branch cables in advance

◆Confirm the length of branch cables with the actual site requirements in advance

◆During installation, confirm whether all branch parts can safely pass through preformed holes

◆Do not apply tension to branch cables when being pulled up or dropped downwards

◆Use a lifting rope that can withstand four times the weight of the cable

◆After the cable has been raised or lowered, appropriate methods should be used to secure the cable and prevent it from falling down