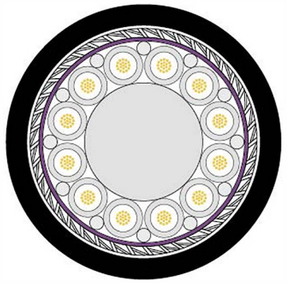
TOW-CHAIN CABLE
拖链电缆 (600V)

UL认证　耐油

应用场合 APPLICATION
数控机床、系统集成等长期拖链、往复运动的场所，主要用于动力或信号传输
Power or signal cable for CNC machine tool and system integration in chain

电缆结构 CABLE CONSTRUCTION



01 导体 CONDUCTOR
精细绞合镀锡铜丝—IEC 60228 6类 —VDE 0295 6类
Fine stranded tinned copper wire acc. to IEC 60228 Cl.6，VDE 0295 Cl.6

06 芯线绝缘 CORE INSULATION
特殊聚酯弹性体TPE
Thermoplastic Elastomer(TPE)
芯线标识：黑色，印白色数码字
Core Identification: Black, with digital number
绞线标识(如有):按客户要求
Pair Identification (If necessary): Wire identification by colour

03 绞合 CABLING
所有芯线绞合+填充+包带
Four wires (and pair) twisted in layers with fillers in foil

06 绞线屏蔽(如有) PAIR SHIELD (IF NECESSARY)
镀锡铜丝，密度≥85%
Shield braiding of tinned copper , covering ≥ 85 %

05 总屏蔽(如有) SHIELD (IF NECESSARY)
镀锡铜丝，密度≥85%
Shield braiding of tinned copper , covering ≥ 85 %

06 护套 JACKET
聚氯乙烯PVC
Polyvinylchloride (PVC)
护套颜色：黑色
Jacket Color: Black

技术参数 TECHNICAL DATA

额定电压	600V	Nominal voltage	600V
测试电压	3kV 50Hz AC，芯-屏蔽	Test voltage	3kV 50Hz AC，core-shield
温度范围	-5℃~+80℃/105℃（移动安装）	Temperature range	-5℃~+80℃/105℃ (flexible installation)
弯曲半径	≥10倍电缆外径（移动安装）	Bending Radius	≥ 10D (flexible installation)
弯曲寿命	1000万次	Bendings	10.000.000 cycles
扭转	如对此有特殊要求，请联系我们技术部门	Torsion	If necessary，Please contact our technical department

性能特征 SPECIAL FEATURES

- 电缆符合UL758、UL1581规范要求 / Cables comply with UL758、UL1581
- 高柔性，链轨内往复拖链 / High endurance for long - term Draging
- 优异的EMC性能 / Very good EMC performance
- 耐油性能满足UL1581，VDE 472-803 Part B / Oil resistant acc. To UL1581，VDE 472-803 Part B
- 阻燃等级满足IEC 60332-1， UL VW-1 / Flame retardant and self-extinguishing acc. To IEC 60332-1， UL VW-1
- 产品符合RoHS、Reach环保要求 / Cables comply with RoHS、Reach environmental requirements

标准规格 STANDARD

拖链动力电缆	
规格Dimensions mm² (AWG)	参考外径 Outer diameter mm (Ref)
4C×0.14mm²	5.6
7C×1.5mm²	9.7
7C×4.0mm²	14.2
12C*16AWG(1.5mm²)	16.3
18C*16AWG(1.5mm²)	17.8
12C*14AWG(2.5mm²)	19.2
18C*14AWG(2.5mm²)	20.7
24C*22AWG(0.34mm²)	12.7
拖链信号电缆	
规格Dimensions(Guage) mm² (AWG)	参考外径 Outer diameter mm (Ref)
2P×0.14mm²	5.2
2P×0.75mm²	6.8
3P×0.25mm²	6.5
4P×0.75mm²	8.7
8P×0.75mm²	11.5

WIRING OF THE MOVABLE CABLE

安装注意事项

为避免动态电缆因布线方式不当而导致断线，请注意以下布线细节。
In order to avoid a trouble such as an early disconnection of cables, please pay attention to the following precautions for wiring.

拖链中布线 WIRING CABLE CARRIER

1. 链轨弯曲半径 Bending radius for cable carrier

布线时链轨的弯曲半径至少是电缆直径的10倍。
For bending radii for cable carrier , ensure that a bending radius is at least equal to or 10 times bigger than the outer diameter of the cable.

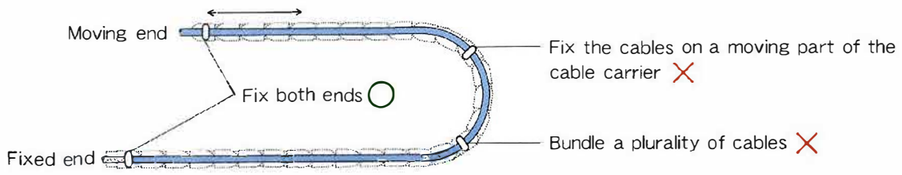
2. 布线时避免破坏电缆 Prevention of distortion during wiring cables

确保电缆在链轨中无打扭现象，电缆应沿链轨方向水平铺开。
Ensure that cables are not distorted or twisted when wiring cables at a cable carrier.
To remove distortion , leave the cables horizontally or hang it on a wall.

3. 避免铺设张力过紧或将电缆固定在链轨运动部位 Avoidance of excessive tensile strength and/or of fixing cables at a cable carrier

假如电缆铺设过紧，电缆外护套与链轨在运动过程中，会产生摩擦而导致破损。
另外，如果将电缆固定在链轨运动部位，拖链时中将在固定位置产生应力集中。
因此，在布线时，应避免有铺设张力作用在电缆上，或者只能将电缆两端固定，而不能固定在运动部位。

If cables are wired at the cable carrier as applying tensile strength, the jacket of the cable may be cut or shaved due to friction caused between the jacket and the inner wall of the cable carrier.
Further, if the cables are fixed or bundled in the cable carrier, the cables effects of absorption and distribution of bending stress may be hindered and stress will be concentrated on the fixed point.
Therefore, when wiring the cables, ensure that no tensile strength is applied to the cables and fix the cables only at the both ends where the cable carrier does not have a moving part (note, do not tighten the cables hard).



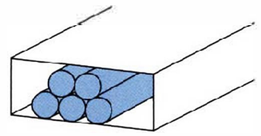
※After operating the cable carrier for a while, check the positions of the cables and modify them if necessary.

4. 避免不同线规的电缆在链轨中相互干扰 Preventing interference from other cables and Precautions for wiring different types of cables

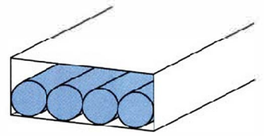
・为避免电缆在链轨中运动时相互干扰，应选择足够宽尺寸的链轨，以确保电缆在水平铺设时有足够的空间。使用隔片也是避免干扰的有效方法，注意隔片与电缆之间的空间至少要2mm。另外，如果没有隔片，请勿将电缆堆积排放。

・In order to avoid and prevent interference between cables, select a cable carrier with an appropriate width to ensure sufficient spaces between cables when cables are aligned in the cable carrier horizontally. Although it is very effective to use partition plates for preventing interference, ensure that a distance between partition plates and cables is equal to or greater than 2 mm when using partition plates. Further, do not pile up the cables without partition plates.

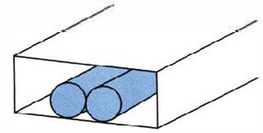
・保持电缆所占的空间系数在30%以下。
・Keep the space factor of the cables below 30%.



Piling up cables ×



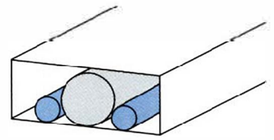
No spacing between cables, Excessive space factor ×



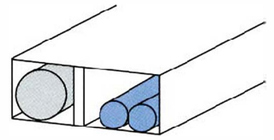
Appropriate wiring ○

・同一链轨中，若有不同直径的电缆，外径小的电缆容易被外径大的电缆挤压在底部，这种情况下，需使用隔片进行隔离。

・When wiring the cables with another type of cables having a different diameter, the cables with smaller diameter may get pressed down by the cables with bigger diameter. In this situation, use partition plates to separate the cables even if there seems to be enough spaces in the cable carrier.



Wiring cables with different diameters ×



To separate the cable by a partition plate ○

WIRING OF THE MOVABLE CABLE
安装注意事项

5. 与空管等硬物一同布线 Wiring with an air hose, etc.

若与空管等硬物一同布线，需使用隔片进行隔离。

When wiring with something hard, e.g., air hoses, use partition plates to separate the cables with the air hoses, etc.

6. 链轨损坏 Damage on the cable carrier

若链轨已损坏，请同时更换电缆，因为损坏的链轨可能已对电缆造成损伤。

When the cable carrier gets damaged, exchange the cables as well. There is a strong possibility for the cables to have gotten damaged through excessive stress caused by the damaged cable carrier.

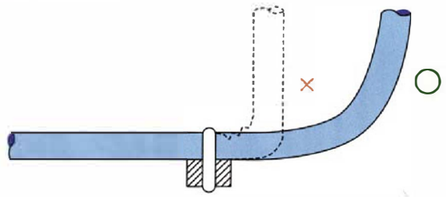
其他注意事项 OTHER NOTES

为避免电缆发生意外损坏，请注意以下事项

To avoid a wire breaking accident, do not lay the cables as described below

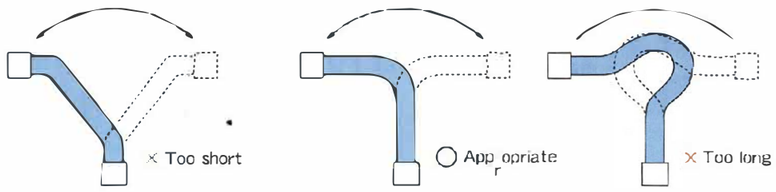
1. 不要将电缆垂直弯曲在固定点上

Do not bend the cables at a bundle point hard



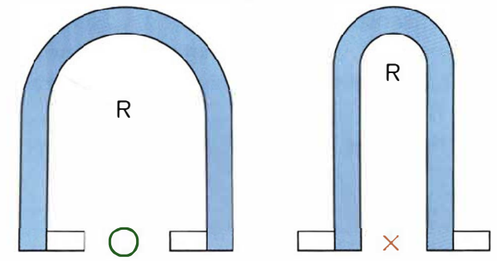
2. 给电缆预留足够的弯曲长度

Be careful with the length of the cables and ensure its flexibility



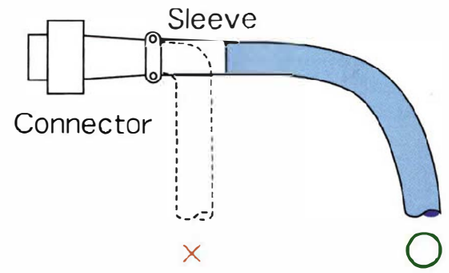
3. 保持足够的弯曲半径

Keep the bending radii as big as possible



4. 连接器装配时，采用网尾

To attach the connectors , support in sleeve



5. 不要将不同线径的电缆捆绑在一起

Don't bundle the cables (especially the cables with different diameter) by wire bands at bending points