

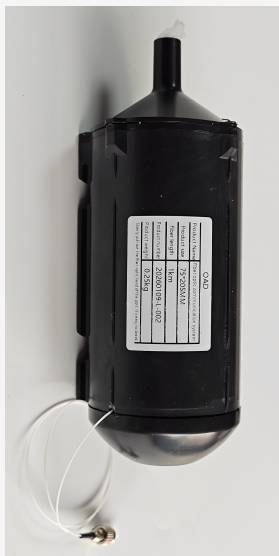
optical fiber communication system

光纤通信系统

Fiber Optic Cylinder Specification Document



1KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-1	Optical fiber length	1,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	75×205mm
weight	250g	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



2KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-2	Optical fiber length	2,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	75×205mm
weight	300g	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



3KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-3	Optical fiber length	3,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	75×205mm
weight	0.45g	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



5KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-4	Optical fiber length	5,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	121×246mm
weight	640g	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



10KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-5	Optical fiber length	10,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	121×246mm
weight	1.1KG	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



15KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

Product Parameters

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product model	FO-0.25-6	Optical fiber length	15,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	121×246mm
weight	1.5kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	430×180×150mm	Six pieces	0.3kg
Six pieces	432×360×450mm (1.1kg)		
Nine pieces	530×435×445mm (1.3kg)		

4Product physical picture



20KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-7	Optical fiber length	20,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.1	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	147×276mm
weight	2.06kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	480×205×175mm	Six pieces	0.45kg
Six pieces	480×410×510mm (1.2kg)		

4Product physical picture



25KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-8	Optical fiber length	25,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	147×276mm
weight	2.55kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	480×205×175mm	Six pieces	0.45kg
Six pieces	480×410×510mm (1.2kg)		

4Product physical picture



30KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

Product Parameters

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product model	FO-0.25-9	Optical fiber length	30,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	147×276mm
weight	2.85kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	480×205×175mm	Six pieces	0.45kg
Six pieces	480×410×510mm (1.2kg)		

4Product physical picture



35KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

Product Parameters

0.25mm

Diameter

0.185 dB/km

Loss

G.657A2

Flexural Behavior

Product model	FO-0.25-10	Optical fiber length	35,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/ Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	147×276mm
weight	3.3kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	480×205×175mm	Six pieces	0.45kg
Six pieces	480×410×510mm (1.2kg)		

4Product physical picture



40KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-11	Optical fiber length	40,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	156×362mm
weight	3.8kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	610×220×187mm	Six pieces	0.5kg
Four pieces	475×420×630mm (1.45kg)		
Six pieces	630×475×630mm (1.65kg)		

4Product physical picture



45KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

Product Parameters

0.25mm Diameter **0.185 dB/km** Loss **G.657A2** Flexural Behavior

Product model	FO-0.25-12	Optical fiber length	45,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	156×362mm
weight	4.4kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	610×220×187mm	Six pieces	0.5kg
Four pieces	475×420×630mm (1.45kg)		
Six pieces	630×475×630mm (1.65kg)		

4Product physical picture



50KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-13	Optical fiber length	50,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	156×362mm
weight	4.85kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	610×220×187mm	Six pieces	0.5kg
Four pieces	475×420×630mm (1.45kg)		
Six pieces	630×475×630mm (1.65kg)		

4Product physical picture



60KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-14	Optical fiber length	60,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Shell material	ABS (black)	Size	156×362mm
weight	5.35kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	610×220×187mm	Six pieces	0.5kg
Four pieces	475×420×630mm (1.45kg)		
Six pieces	630×475×630mm (1.65kg)		

4Product physical picture



90KM-Fiber Optic Cylinder



Our fiber optic cylinder is a high-performance communication solution specially designed for harsh environments, capable of achieving extremely low transmission loss and excellent bending resistance. Its compact design optimizes space utilization, while also providing complete immunity to electromagnetic interference, making it highly suitable for applications that are sensitive to weight, such as unmanned aerial vehicle communication, high-altitude platforms, and underwater systems, etc.

0.25mm **0.185 dB/km** **G.657A2**
Diameter Loss Flexural Behavior

Product Parameters

Product model	FO-0.25-15	Optical fiber length	90,000 M
Product name	Fiber optic cylinder	Fiber type	G.657A2
Sheath material	KEVLAR/PVC/Resin/ink	Unit weight	80 g/km
Wire diameter	0.25 mm ± 0.01	Operating temperature	-40°C ~ +85°C
Packaging color	Invisible and transparent	Fiber optic tension	60N
Optical interface	FC/FC	insertion loss	≤0.3dB

2.Optical fiber attenuation parameter

optical wavelength	1310nm	1550nm
Specification Value	≤ 0.35 dB/km	≤ 0.25 dB/km
typical value	0.329 dB/km	0.185 dB/km

3.packaging information

Fiber optic cylinder			
Drum size (including fiber + shell):		368x192 mm	
weight	8.5kg	Product accessories	Straight pipe curved pipe
Transport package			
Single unit	610×220×187mm	Six pieces	0.5kg
Four pieces	475×420×630mm (1.45kg)		
Six pieces	630×475×630mm (1.65kg)		

4Product physical picture



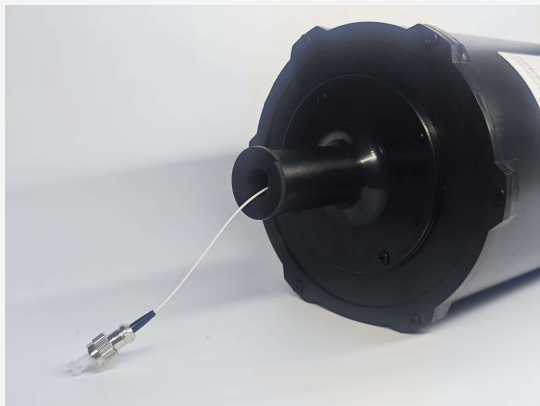
Multiple specifications comparison

Specification	1KM	2KM	3km	5KM	10km
Product model	FO-0.25-1	FO-0.25-2	FO-0.25-3	FO-0.25-4	FO-0.25-5
Fiber optic diameter	0.25mm	0.25mm	0.25mm	0.25mm	0.25mm
Shell material	ABS	ABS	ABS	ABS	ABS
Shell material	75×205mm	75×205mm	75×205mm	121×246mm	121×246mm
Weight	0.25KG	0.3KG	0.45KG	0.64KG	1.1KG

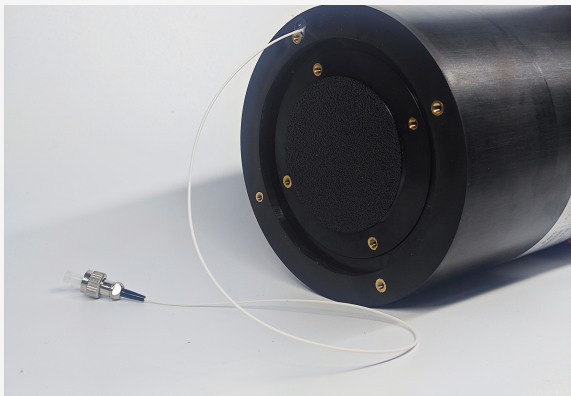
Specification	15KM	20KM	25km	30KM	35km
Product model	FO-0.25-6	FO-0.25-7	FO-0.25-8	FO-0.25-9	FO-0.25-10
Fiber optic diameter	0.25mm	0.25mm	0.25mm	0.25mm	0.25mm
Shell material	ABS	ABS	ABS	ABS	ABS
Product size	121×246mm	147*276mm	147*276mm	147*276mm	147*276mm
Weight	1.5KG	2.06KG	2.55KG	2.85KG	3.3KG

Specification	40KM	45KM	50km	60km
Product model	FO-0.25-11	FO-0.25-12	FO-0.25-13	FO-0.25-14
Fiber optic diameter	0.25mm	0.25mm	0.25mm	0.25mm
Shell material	ABS	ABS	ABS	ABS
Shell material	156×362mm	156×362mm	156×362mm	156×362mm
Weight	3.8KG	4.4KG	4.85KG	5.35

Connection end details



Tail end details



Details of the outlet nozzle



Optical Fiber Cylinder - Deep Customization Service for Products

High-performance optical fiber connection solutions ·
Professional OEM/ODM services

Customized Service Description

We offer comprehensive customized services for optical fiber tubes. We can adjust parameters such as the material of the optical coating layer, the diameter specification, and the type of connector according to customer needs, to meet the requirements of special application scenarios. Whether it is underground conduits, pipelines, tunnels, unmanned ships, underwater exploration, etc., we can provide professional customized solutions.

Customization options

1. Custom coating layer



凯夫拉涂覆层

高强度、耐磨损，适用于恶劣环境



PVC涂覆层

柔韧性好，成本效益高



树脂涂覆层

标准选择，良好的机械保护

Customized products may require additional development time and costs. For specific customization requirements, please contact our technical sales team. We will provide you with the best solution.

2. Wire diameter customization

We offer a variety of fiber optic diameters for selection, and can customize according to customer requirements:

0.25mm

Superfine wire
diameter

0.26mm

Standard wire
diameter

0.28mm

Increased wire
diameter

0.30mm

Durability
wire diameter

0.35mm

High durability
wire diameter



3. Interface customization

SC/PC

Plug-and-play connection, easy to install

LC/PC

Miniaturized design, high-density connection

ST

Snap-fit connection, with high reliability

FC /PC

Threaded connection, high stability



custom process

1. Demand Communication: Gain a thorough understanding of your application scenario, performance requirements and special needs.
2. Solution Design: Our engineering team provides customized solutions and technical suggestions.
3. Sample Production: Produce samples based on the confirmed solution for customer testing and verification.
4. Batch Production: After sample confirmation, arrange for batch production to ensure stable quality.
5. Quality Inspection: Each batch of products undergoes strict quality testing.
6. Delivery and Support: Deliver on time and provide comprehensive after-sales technical support.

OEM/ODM Service Description

We are not only the manufacturer of optical fiber tubes, but also your reliable technical partner. We offer comprehensive customized services for optical fiber tubes, including OEM (Original Equipment Manufacturer) and ODM (Original Design Manufacturer) cooperation models. We can adjust product specifications, appearance design, packaging, etc. according to customer needs to meet the requirements of various special application scenarios.

OEM-Service **OEM**

We will manufacture the products according to your design and specification requirements, and use your brand logo. This is suitable for customers who already have product designs but need to outsource production.

Produced according to your technical specifications
Using your brand and packaging
Strict quality control system
Flexible order quantities
Confidentiality agreement guarantee

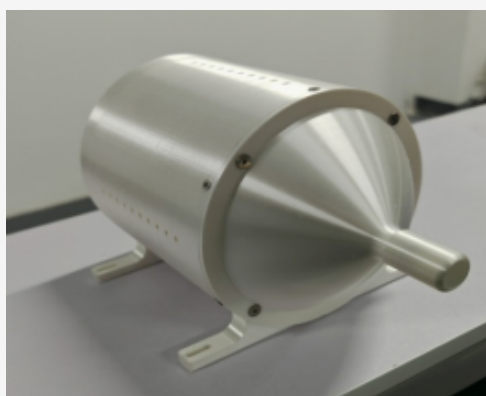
ODM-Service **ODM**

We offer a complete solution from design to manufacturing. You just need to specify your requirements, and we will handle the product design, development and manufacturing.

Full-process service from concept to finished product
Professional R&D team support
Personalized product design
Fast sample production
Intellectual property protection

Underwater Anti-Interference Communication System Solution

水下抗干扰通信系统方案



The underwater anti-interference optical fiber communication system is a highly reliable underwater communication solution developed by our company based on advanced optical fiber transmission technology. This system uses a specially designed optical fiber tube as the core transmission medium, combined with professional underwater optical transceivers and waterproof connectors, to build a complete underwater communication link, which can achieve stable and reliable data transmission in complex marine environments.

1.system composition

High-speed optical fiber release device

The core transmission component of the system adopts aramid + PVC sheath and G657A2 optical fiber, providing a stable and reliable data transmission channel.

Optical transceiver equipment

It includes transmitting and receiving optical transceivers, supports transmission in the 1550/1310nm wavelength bands, and provides various interfaces such as optical ports, network ports, and serial ports.

Water-tight connector

Designed specifically for underwater environments, it ensures the system can operate stably underwater for a long time and prevents water from seeping in.

2.Application scenarios

This system is applicable to various underwater communication scenarios, including but not limited to:

Communication and control for underwater robots (ROV/AUV)

Data transmission for underwater observation networks

Communication for underwater construction and engineering

Exploration and development of marine resources

Monitoring of ports and coastlines

Underwater scientific research and exploration

2.1 High-speed optical fiber release device specifications

product name	High-speed optical fiber release device	Length	1~30km
Sheath material	Aramid + PVC	Fiber type	G.657A2
Outer diameter of the optical cable	0.5mm, 0.65mm	Unit weight	248g/km, 430g/km
Drawing force	>150N, >200N	Operating temperature	-40℃~+60℃
Optical interface	FC/UPC或LC/UPC	Packaging color	yellowish
Attenuation coefficient	≤0.35 (1310nm) ≤0.25 (1550nm)	Canning material	Resin and metallic aluminum
Size (customizable)	237mm×180mm×152mm (10km)	Optical cable density	1.25g/cm³, 1.3g/cm³
	300mm×277mm×248mm (20km)		

2.2 Optical transceiver equipment specifications

Parameter items	Standard value	Parameter items	Standard value
Product name	Transmitting optical terminal unit, Receiving optical terminal unit	Transmitting band	1550/1310nm
Interface type	Optical port, FC (Fiber Channel), network port, serial port	unit weight	customization
Connection type	Water-tight wired connection		



Transmitting optical terminal equipment



Receiving optical terminal equipment



Water-tight connector

Precision Fiber Rewinder



Precise tension control **0.1~5N**

Maximum reel winding speed: **400m/min**

The maximum diameter of the reel: **400mm*300mm**

Precise wiring system

Automated gluing device

Optical Fiber Communication System Optical Terminal Equipment

光纤通信系统·光端机

Product specification



fiber optic terminal

Optical Transceiver Specification Document

10M/100M Ethernet data channel, analog video,
and TTL signal mixed multiplexing and transmission

1.1 product overview

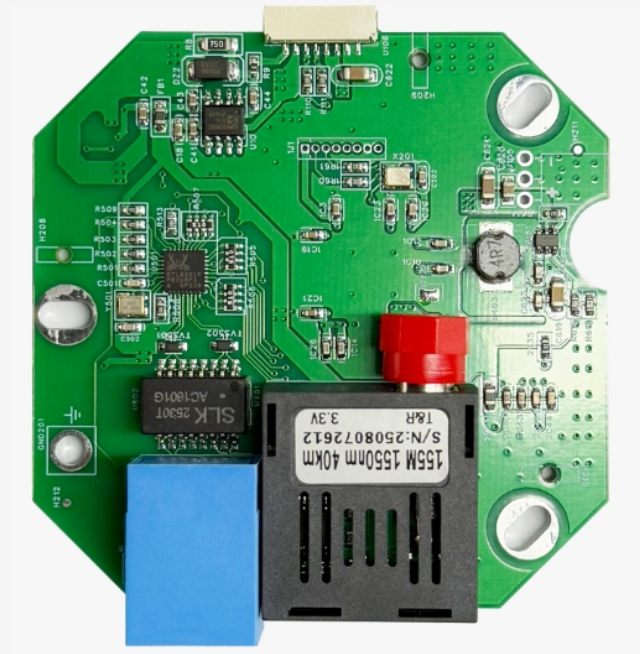


This optical module is the core component of the fiber tube anti-interference communication system, specifically designed to achieve reliable data transmission in complex electromagnetic environments. As a crucial bridge connecting electrical signals and optical signals, this module converts various electrical signals (Ethernet data, video signals, control signals) into optical signals, transmits them through the fiber tube, and then converts the optical signals back into electrical signals, thereby achieving highly reliable communication completely immune to electromagnetic interference.

Optical terminal equipment - Sky

Name	Optical transmitter and receiver	
机型Model	Optical Transceiver Type A · Support high-definition analog	
裸板尺寸Bare board size	70×50×16mm	
重量Weight	35g±2g	
电源 Power	DC 5V~27V	
通讯距离 Communication distance	Related to the transmission distance of the optical terminal equipment and the attenuation caused by the use of optical fiber tubes	
支持穿越机协议 Supported Crossover Machine Protocol	SBUS & CRSF	
数据接口 Data interface	GH1.25-8P	
	RJ45, 100M	
光路接口Optical interface	Single-mode single-fiber-FC40km	
指示灯Pilot lamp	PWR	Power light
	SYC	Light path synchronization indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

Optical terminal - Sky terminal: Product physical picture



Optical Transceiver - Ground End

Name	optical transmitter and receiver	
机型Model	Optical Transceiver - Ground End	
机身尺寸Fuselage size	105×70×28mm	
重量Weight	220g±2g	
电源 Power	DC 5V~27V	
外壳	Iron shell, desktop style	
通讯距离Communication distance	It is related to the transmission distance of the optical terminal equipment and the attenuation caused by the optical fiber tube. It can be optionally equipped.	
支持穿越机协议Supported Crossover Machine Protocol	CRSF-PPM & SBUS-PPM	
光路接口Optical interface	OPT	Single-mode single-fiber 40km FC
电源接口 Power interface	XT60 (DC IN)	
视频输出接口 Video output interface	Video	BNC (analog video)
	ETH	RJ45-100M (High-definition IP)
数据接口 Data interface	GH1.25-8P	Cable
指示灯Pilot lamp	PWR	power light
	SYC	Light path synchronization indicator light
	Video	Video output indicator light
	SDY	Wireless signal indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

Optical terminal - ground terminal: Product physical picture



Optical Transceiver Specification Document

10M/100M Ethernet data channel, analog video,
and TTL signal mixed multiplexing and transmission

1.1product overview



This optical module is the core component of the fiber tube anti-interference communication system, specifically designed to achieve reliable data transmission in complex electromagnetic environments. As a crucial bridge connecting electrical signals and optical signals, this module converts various electrical signals (Ethernet data, video signals, control signals) into optical signals, transmits them through the fiber tube, and then converts the optical signals back into electrical signals, thereby achieving highly reliable communication completely immune to electromagnetic interference.

Optical terminal equipment - Sky

Name	Optical transmitter and receiver	
机型Model	Optical Transceiver - Sky End (Analog)	
裸板尺寸Bare board size	70×50×16mm	
重量Weight	35g±2g	
电源 Power	DC 5V~27V	
通讯距离 Communication distance	Related to the transmission distance of the optical terminal equipment and the attenuation caused by the use of optical fiber tubes	
支持穿越机协议 Supported Crossover Machine Protocal	SBUS & CRSF	
数据接口 Data interface	GH1.25-8P	
光路接口Optical interface	Single-mode single-fiber-FC40km	
指示灯Pilot lamp	PWR	Power light
	SYC	Light path synchronization indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

Optical terminal - Sky terminal: Product physical picture



Optical Transceiver - Ground End

Name	optical transmitter and receiver	
机型Model	Optical Transceiver - Ground End (analog)	
机身尺寸Fuselage size	105×70×28mm	
重量Weight	220g±2g	
电源 Power	DC 5V~27V	
外壳	Iron shell, desktop style	
通讯距离Communication distance	It is related to the transmission distance of the optical terminal equipment and the attenuation caused by the optical fiber tube. It can be optionally equipped.	
支持穿越机协议Supported Crossover Machine Protocol	CRSF-PPM & SBUS-PPM	
光路接口Optical interface	OPT	Single-mode single-fiber 40km FC
电源接口 Power interface	XT60 (DC IN)	
视频输出接口 Video output interface	Video	BNC (analog video)
数据接口 Data interface	GH1.25-8P	Cable
指示灯Pilot lamp	PWR	power light
	SYN	Light path synchronization indicator light
	Video	Video output indicator light
	SDY	Wireless signal indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

Optical terminal - ground terminal: Product physical picture



Optical Transceiver Specification Document

10M/100M Ethernet data channel, analog video,
and TTL signal mixed multiplexing and transmission

1.Product Overview



This optical module is the core component of the fiber tube anti-interference communication system, specifically designed to achieve reliable data transmission in complex electromagnetic environments. As a crucial bridge connecting electrical signals and optical signals, this module converts various electrical signals (Ethernet data, video signals, control signals) into optical signals, transmits them through the fiber tube, and then converts the optical signals back into electrical signals, thereby achieving highly reliable communication completely immune to electromagnetic interference.

Mini Optical Transceiver Type A

Name	Optical transmitter and receiver	
机型Model	Mini Optical Transceiver Type A	
裸板尺寸 Bare board size	50 (H) ×29 (W) ×15 (H) mm	
重量Weight	15g±2g	
电源 Power	DC 5V~27V	
通讯距离 Communication distance	It is related to the transmission distance of the optical terminal equipment and the attenuation of the optical fiber cylinder used.	
支持穿越机协议 Supported Crossover Machine Protocal	SBUS or CRSF	
数据接口 Data interface	Sh1.0-4P	
光路接口Optical interface	Single-mode single-fiber FC 40km	
指示灯Pilot lamp	PWR	Power light
	SYC	Light path synchronization indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

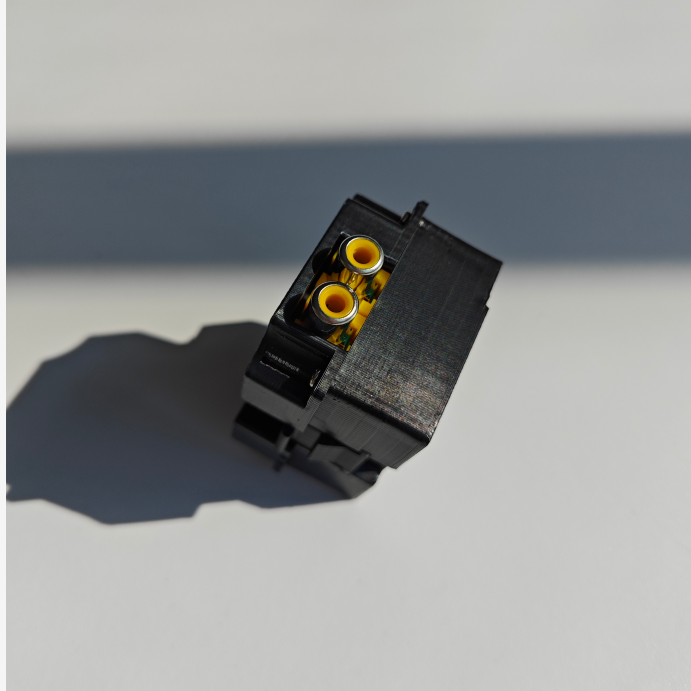
Physical picture of the Mini A optical transceiver product



Model Min optical transceiver Type B

Name	Optical transmitter and receiver	
机型Model	Optical terminal equipment Type B	
机身尺寸 Fuselage size	65(H)×50(W)×15(H)mm	
重量Weight	48g±2g	
裸板重量	22g±2g	
电源 Power	DC 5V~27V	
通讯距离 Communication distance	The transmission distance of the optical terminal equipment and the attenuation of the optical fiber cylinder used are related to the type B optical terminal equipment.	
支持穿越机协议 Supported Crossover Machine Protocol	SBUS or CRSF	
光路接口Optical interface	OPT	FC
电源接口 Power interface	DC IN	Power supply for the JR expansion compartment of the remote control
视频输出接口 Video output interface	Video	RCA
数据接口 Data interface	SBUS_RX	Remote control JR expansion box direct supply
指示灯Pilot lamp	PWR	Power light
	SYC	Light path synchronization indicator light
	Video	Video output indicator light
	SDY	Wireless signal indicator light
Note: Special requirements can be customized. There may be slight changes after subsequent upgrades.		

The actual picture of the Min model A optical transceiver product



FPV Simulation Camera Specification Document



Night vision-
specific model

Ultra-low light
level 0.00001Lux

Delay less
than 10ms

Super wide
dynamic range

Model	BS59KR	BS59KN	BS59KNIR	BE59KPIR	BF59KPIR	BE59KP	BF59KP
IR Filter	Yes		No (IR-sensitive)			Yes	Yes
Imaging sensor	Super Starlight HD Sensor			Starlight HD Sensor			
Resolution	720P		1500TVL	1200TVL			
Aspect Ratio	16:9 & 4:3 (Switchable			16:9 & 4:3 (Optional)			
WDR	Super Wide Dynamic						
Ultra Low Illumination	0.00001LUX			0.0001LUX			
Viewing Angle	120°			165°	145°	165°	145°
Day/Night Mode	Color / B&W / Auto / External Control						
Video Output	AHD	CVBS					
DNR	3DNR						
Operating Temperature	-40℃~65℃						
Power Input	DC4.5-27V						
Power Consumption	1W			0.5W			
Housing Material	Metal						
Net Weight	9g						
Dimensions	19mm×19mm×27mm			19mm×19mm×25mm			