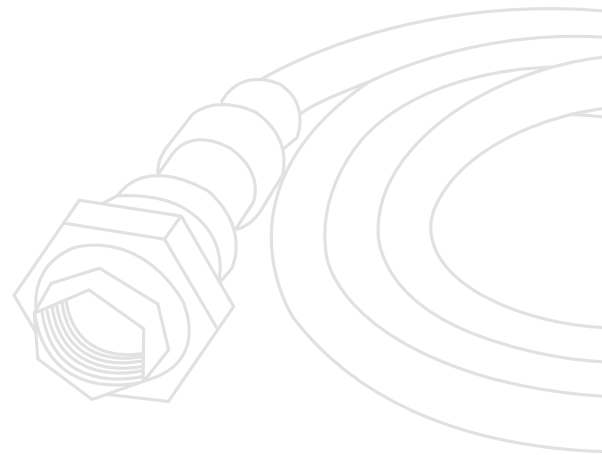


Product Information
FIBRE OPTIC CABLE

IR, UV



- use at ambient temperatures from -60 °C to +300 °C
- strong vibration at the sight port
- limited space at the sight port

1 | Design

The Fiber Optic Cables are an extension of the application range of our flame monitoring devices. They are characterised by their high temperature resistance, their insensitivity to vibration and their robust design. This makes them ideal for applications where the installation or cooling of the Flame Scanner electronics is complex or not possible.

High-quality quartz fibers are used for the Fiber Optic Cables, whose transmission spectra from the ultraviolet (UV) to the visible (VIS) to the infrared range (IR) are optimally matched to the semiconductor sensors of the flame scanners. This enables the use of fiber optic technology for all types of fuel.

The Fiber Optic Cable is used to pick up the flame radiation and transmit it to the opto-electronic converter (OE converter). In the OE converter, the Flame Scanner electronics convert the optical signals into electrical signals.

The complete optical fiber system consists of an Fiber Optic Cable FOC and a Sensor Head SKL.

The Sensor Head is equipped with a lens that projects the flame radiation onto the glass fiber bundle with a viewing angle of 2.7°. The Fiber Optic Cable including SKL has a temperature resistance of up to +200 °C (HT Fiber Optic Cables are available for higher temperature requirements of up to +300 °C).

The Fiber Optic Cables are available in different lengths and variants.

2 | Customer benefits and usage

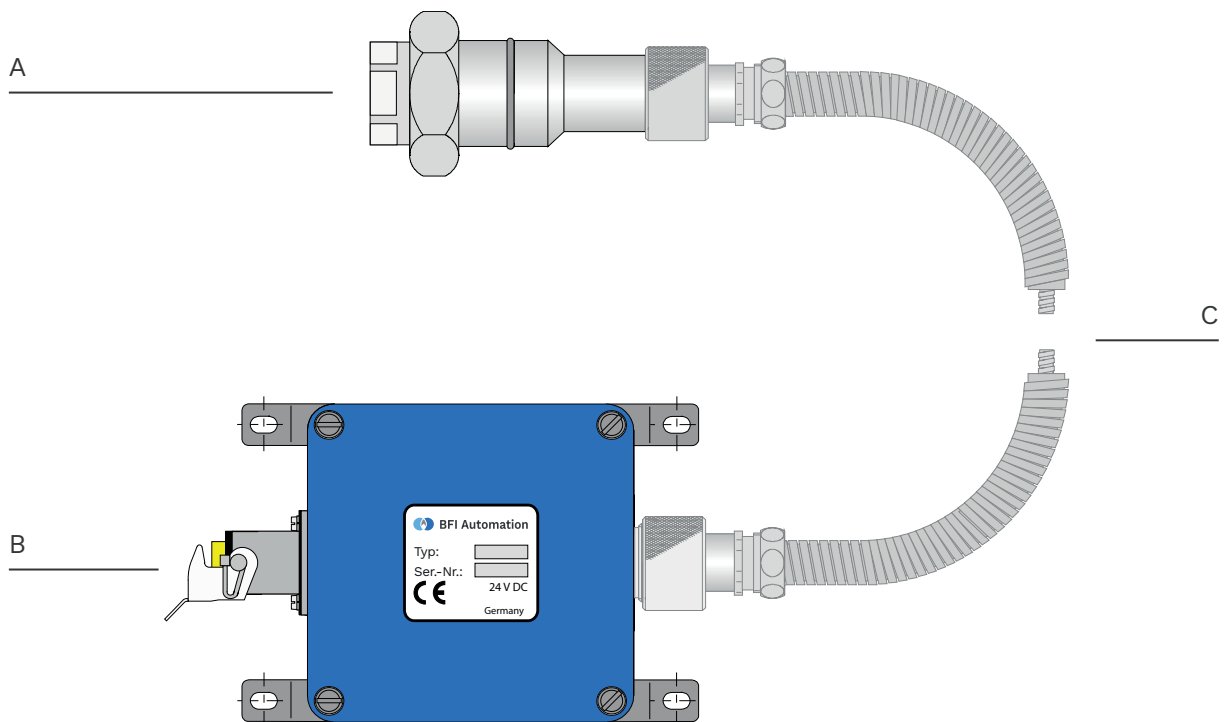
- high temperatures at the sight port
- strong vibration at the sight port
- limited space at the sight port
- accessibility of the Flame Scanner

3 | Housing versions

The Fiber Optic Cable is used to transmit the flame radiation in the UV/VIS or IR spectral range in order to protect the sensor electronics from high temperatures and/or vibrations.

The Sensor Head SKL (A) is mounted on the sight tube connection of the combustion chamber. The connection to the SKL is made via the M30 union screw connection on the Fiber Optic Cable (C). The opposite side of the Fiber Optic Cable is connected to the connection of the Flame Scanner or Compact Flame Controller (B).

We recommend securing the Fiber Optic Cable to the Sensor Head with a cable tie at least 0.5–1 meter before mounting it. A cable tie with a width of at least 5 mm should be used to avoid damaging the Fiber Optic Cable's protective sleeve.



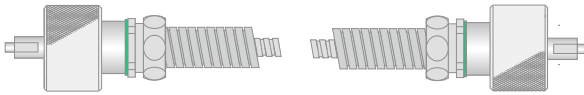
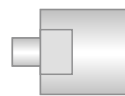
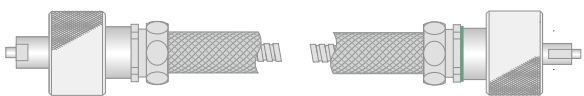
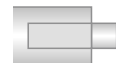
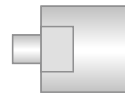
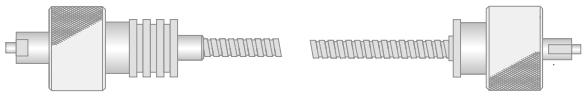
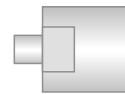
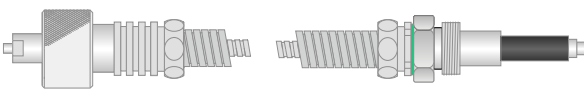
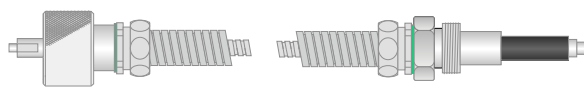
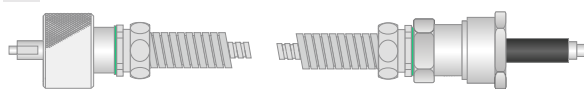
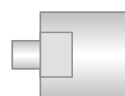
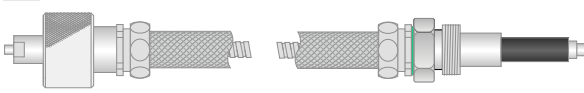
A	Sensor Head SKL
B	Fibre Optic Cable (up to 25 m length)
C	Flame Scanner / Compact Flame Controller

4 | Variants

LWL-Version

Process/SKL-side

Scanner/CFC-side

A

B

C

D

E

F

G


	LWL-Version	Protective hose Ø	Material	Temperature range
A	Standard-Version	17 mm	Steel	-60 °C to +200 °C
B	HT-Version	17 mm	Stainless steel	-60 °C to +300 °C
C	HT-Version	6 mm	Stainless steel	-60 °C to +300 °C
D	Ex HT-Version	17 mm	Stainless steel A4	-60 °C to +300 °C
E	Ex-Version	17 mm	Steel	-60 °C to +200 °C
F	Ex-Version	17 mm	Steel	-60 °C to +200 °C
G	Ex HT-Version	17 mm	Stainless steel	-60 °C to +300 °C

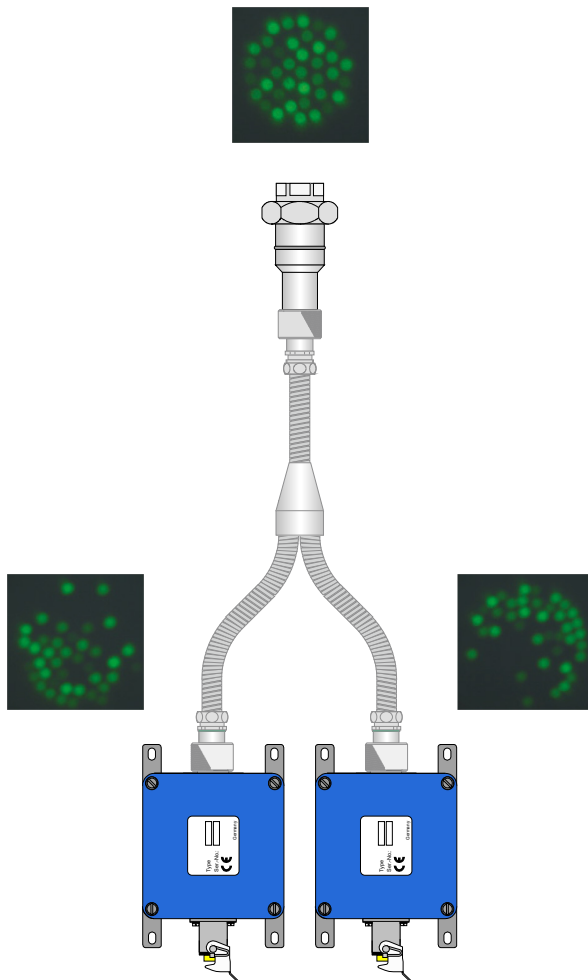
5 | Technical data

Spectral sensitivity IR UV	400 nm to 2400 nm 190 nm to 1200 nm
Standard lengths	2 m, 3 m, 5 m, 7 m, 10 m
Cable length optional	0,5 m to 20 m
Ambient temperature Standard-Version High-temperature-Version	-60 °C to +200 °C -60 °C to +300 °C
Material protective hose Standard-Version High-temperature-Version	steel stainless steel
Bending radius min	> 125 mm
Type of protection	SKL IP68, OE-converter IP65

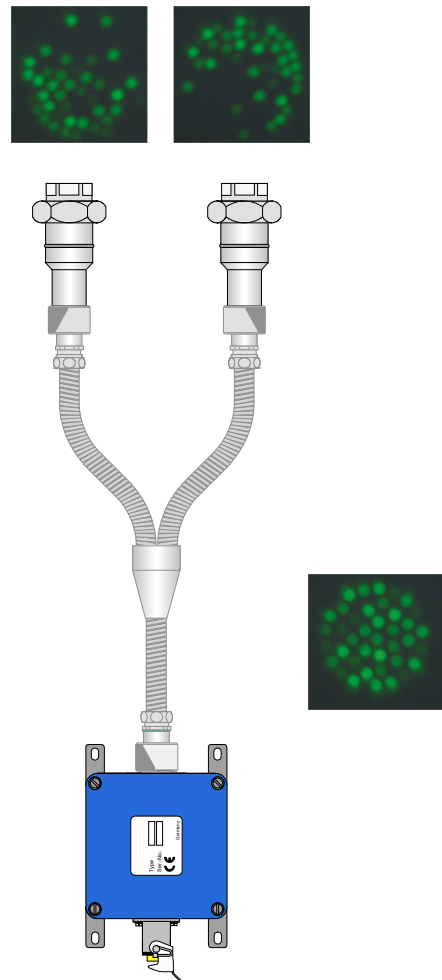
4 | Y-Fiber Optic Cable

The Y-type Fiber Optic Cable uses all the advantages of the standard BFI Fiber Optic Cable series. By splitting the fiber bundle, redundant operation of the Flame Scanner / CFC can be achieved with this Y-type Fiber Optic Cable. Another option is to monitor the flame with a Flame Scanner / CFC at two different viewing positions. Strongly varying flame characteristics can mean that the flame can no longer be detected from a single viewing position. By using a Y-Fiber Optic Cable, the flame can be detected at 2 viewing positions with just one Flame Scanner / CFC.

Splitting of one flame signal
to two Flame Scanners / CFC



Monitoring of two viewing positions
by one Flame Scanner / CFC



**BFI Automation GmbH**

Ruegenstr. 7

42579 Heiligenhaus . Germany

T +49 2056 989 46-0

info@bfi-automation.de

www.bfi-automation.de