



Dragon 30 kW LOE Compatible High Power Laser Cable (Dragon Series)

Rev 11

Description

AFR's Dragon 30kW product provides LOE compatible connector for high power fiber lasers up to 30 kW. Technologies incorporated include cladding mode stripping, indirect water cooling, and safety interlock.

Key Features

- Low Insertion Loss
- High Power Handling
- High Backward Power Handling
- Indirect Water Cooling
- Safety Interlock

Applications

- Fiber Laser
- Fiber Coupling

Specifications

| Parameter | Unit | Value |
|--------------------------------------|------|-------------------|
| Operation Wavelength | nm | 1080 ± 30 |
| Numerical Aperture (NA) | - | ≤ 0.22 |
| Max. Transmission Loss of Fiber Core | % | 2 |
| Max. Power Handling | kW | 30 |
| Max. Peak Power | - | Max. 50 kW @ 1 ms |
| | - | Max. 1 mW @ 50 ns |
| Max. Stripping Cladding Power | - | 1.5 kW for 10 min |
| | - | 1 kW Continuously |
| Max. Z-Position Tolerance | µm | ± 80 |
| Max. Angular Deviation | mrad | 10 |

Cooling Water Requirements

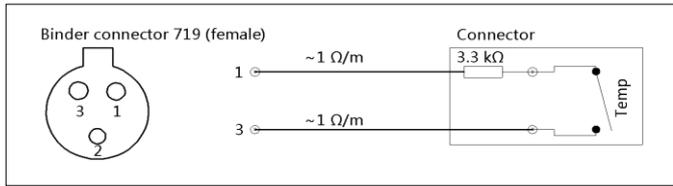
| | | |
|---------------------|-------|-------------|
| Min. Flow Rate | L/min | 4.0 |
| Min. Water Pressure | Mpa | 0.8 |
| Water Temperature | °C | 10 - 45 |
| Water Hose Diameter | mm | ID/OD = 6/8 |

Others

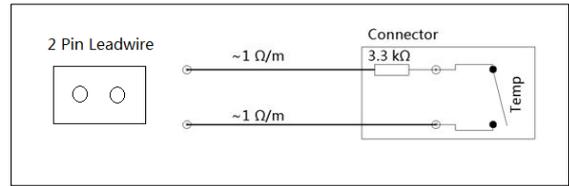
| | | |
|-------------------------------|----|--|
| Mechanical Interface | - | Compatible with the Standard LOE Interface |
| Type of Cable Gland | - | Metal |
| Min. Fiber Tensile Load | N | 5 |
| Operating Ambient Temperature | °C | + 5 to + 50 |
| Storage Temperature | °C | - 20 to + 70 |

Safety Interlock

| Parameter | Unit | Value |
|------------------------------|------|---------------------------------|
| Interlock Circuit Resistance | - | 3.3 kΩ ± 5% + 2 Ω/m Fiber |
| Thermoswitch Limit | - | 70 °C ± 5 °C, Reset temp < 30°C |
| Max. Working Voltage | - | 33 V |



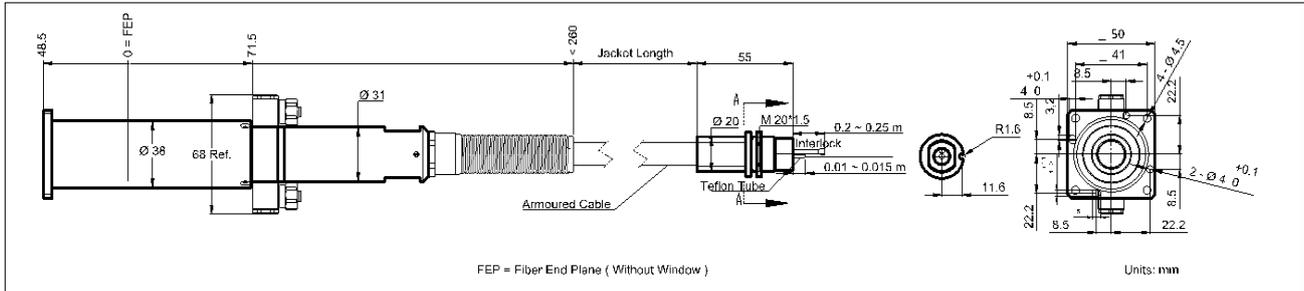
Binder Connector



2 Pin Leadwire

Package Dimensions

UPD+08



Ordering Information

Dragon-①①-②②②②-③③③③-④④-⑤-⑥⑥⑥-⑦-⑧-⑨⑨⑨⑨⑨

①①: Handling Power

10 - 10 kW

20 - 20 kW

30 - 30 kW

SS - Specify

②②②②: Wavelength

1080 - 1080 nm

SSSS - Specify

③③③: Fiber Type

008 - Brightcore 100/140/250, 0.12 NA

011 - Nufern BD-S100/120/360-STN, 0.22 NA

022 - YOFC SI 100/120/360, 0.22 NA

030 - YOFC SI 150/170/360-22/540, 0.22 NA

031 - Nufern BD-S150/180/660-STN, 0.22 NA

032 - YOFC SI200/220/360-22/650E, 0.22 NA

033 - Nufern BD-S200/220/360-STN, 0.22 NA

054 - YOFC SI 70/90/360 NA0.22

SSS - Specify

④④: Jacket Length

20 - 20 ± 0.2 m

30 - 30 ± 0.3 m

SS - Specify

⑤: Fiber Length

1 - ≥ 1 m

2 - ≥ 2 m

S - Specify

⑥⑥⑥: Armoured Cable

13T - 13 mm, TPU

13P - 13 mm, PVC

⑦: Cable End Package

B - Binder Connector

P - 2 Pin Leadwire

N - None

⑧: Window Option

N - Without Window

⑨⑨⑨⑨⑨: Package Type

UPD+08 - Type UPD+08