

## Fiber Optic Laser Diodes & Receivers



Laser (Emitter) / Receiver

Housing &amp; Connector Type

Fiber optic Module Assembly

IMM Photonics develops and produces fiber optic components including receptacles, multiplex modules and fiber collimators in Germany. Nearly all of these components are customer-specific. Their fiber optic components are used in electrical measurement, communication technology, medical engineering, and of course data transfer under harsh environments.

- Receptacles and Pigtails
- Multiplex-Modules
- Pilot Laser red/green
- Fiber Collimators
- Fiber Couplers (Gould Fiber Optics)

### General information on capabilities in fiber optics

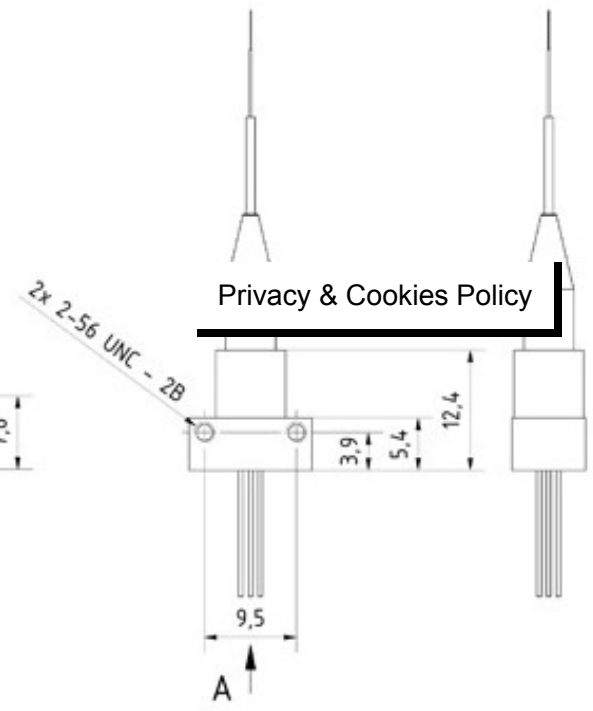
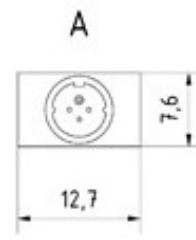
Housing	Wave Length Range (nm)	Fiber Diameter (µm)	Components
SMA	635 – 2000	50 – 1000	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
ST all metal	635 – 2000	50 – 1000	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
ST ceramic	635 – 2000	9 – 1000	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
FC	635 – 2000	9 – 1000	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
FC/APC	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
SC	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
SC/APC	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
LC	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
LC/APC	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
Universal	635 – 2000	9 – 62.5	LEDs (TO-package), Low power LDs, Detectors (GaAs, Si, InGaAs)
Pigtail	375 – 2000	2 – 1000	LEDs, High power LEDs, High power LDs, Detectors (GaAs, Si, InGaAs)

Definition: Low power LDs: heat generation max. 300mW ( $I_{op} \times U_{op} - P_{opt}$ )

### Receptacles and Pigtails

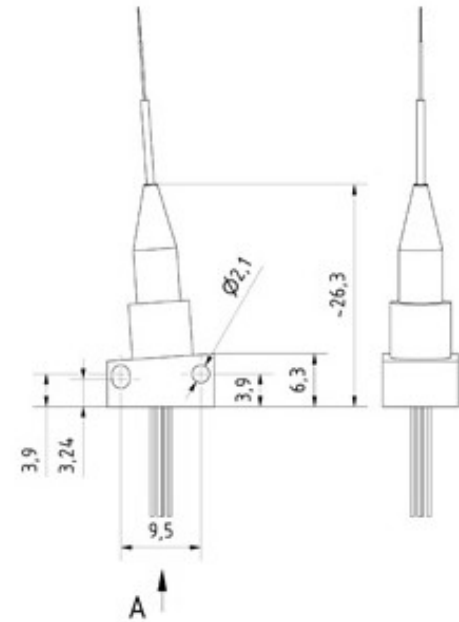
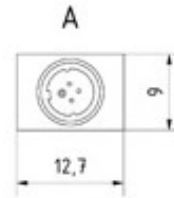
We offer a wide variety of economic standard housings and diodes. Standard casings are: ST, SMA, SC, FC/PC, FC/APC, LC, FIBERDIP, Universal. It is also possible to design the housing according to your specific requirements. Due to our large pool of suppliers we always find the most suitable diode for your individual specification.

### P2

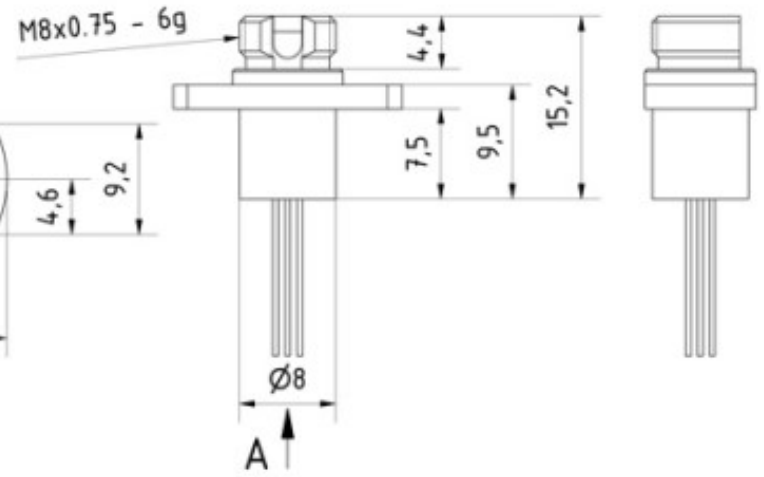
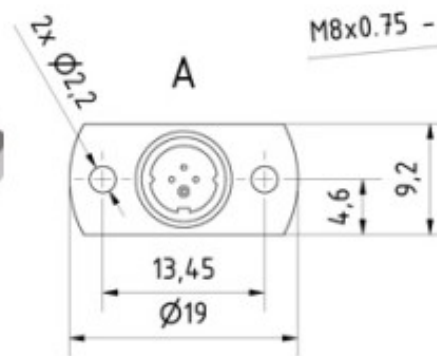


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### P2-APC

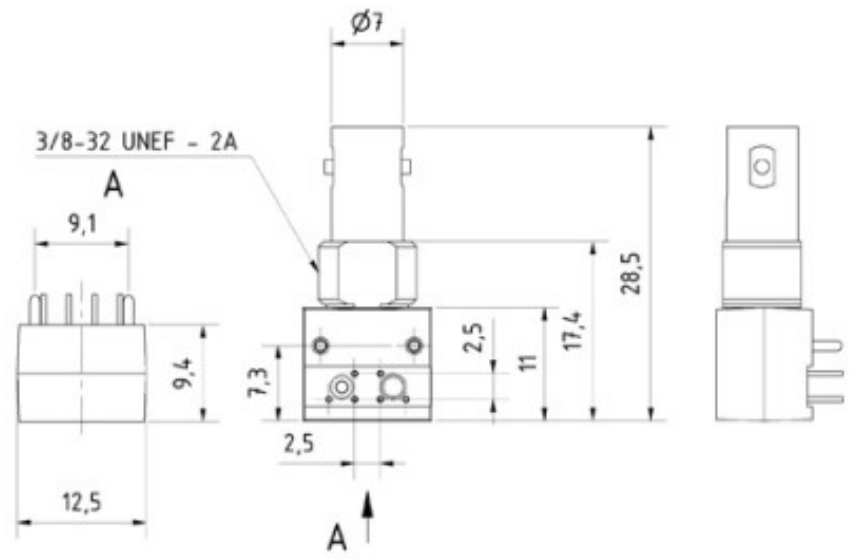


### FC1

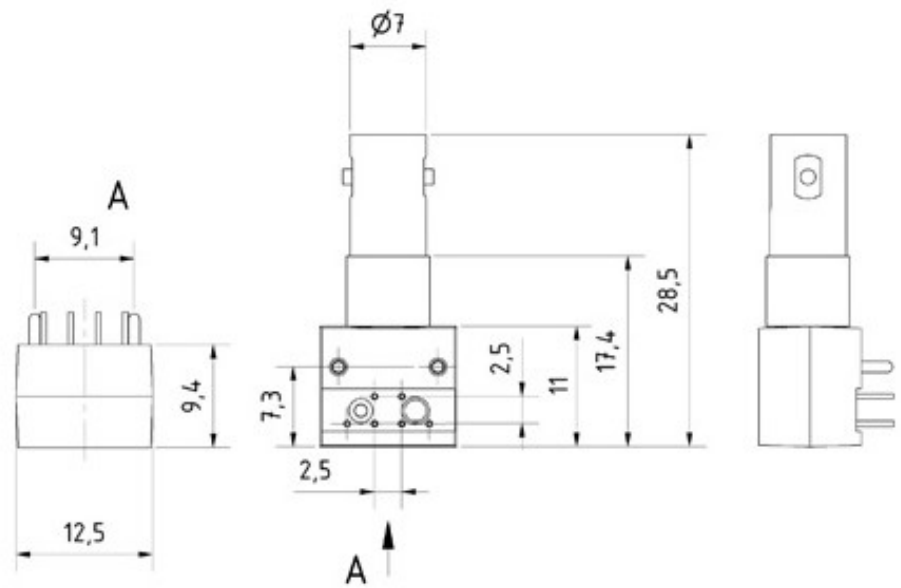


### FC2

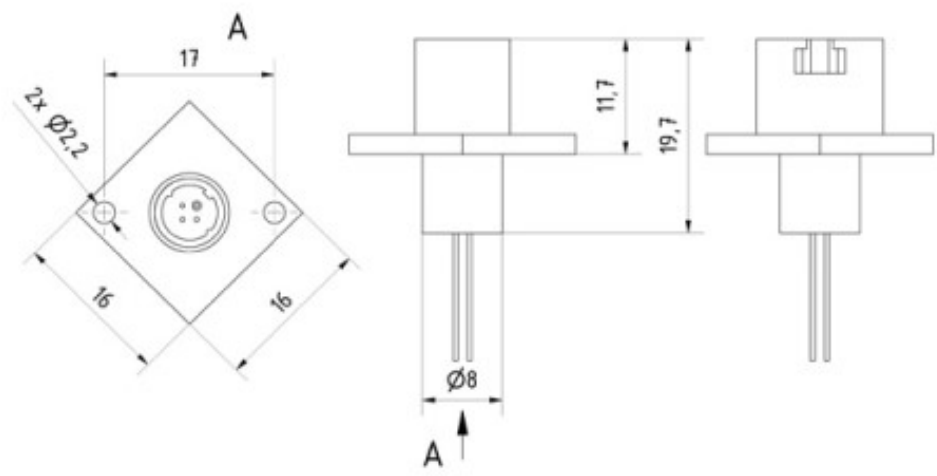
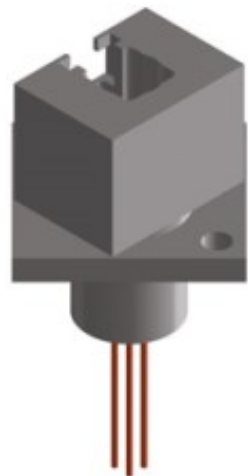




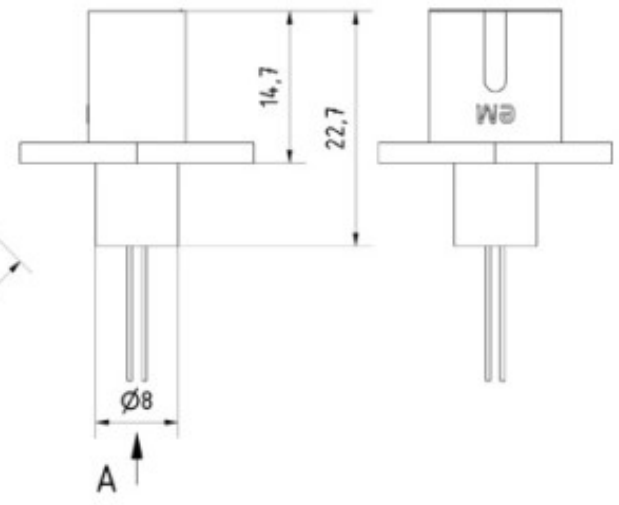
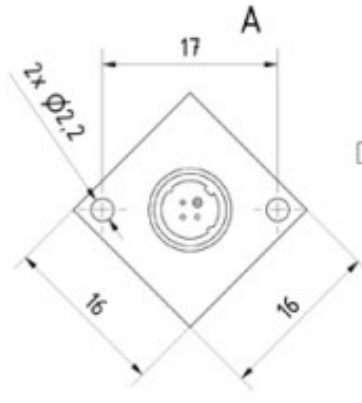
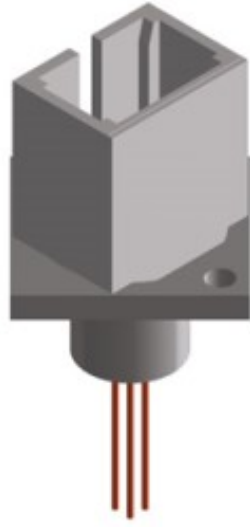
### ST Fiberdip without Thread



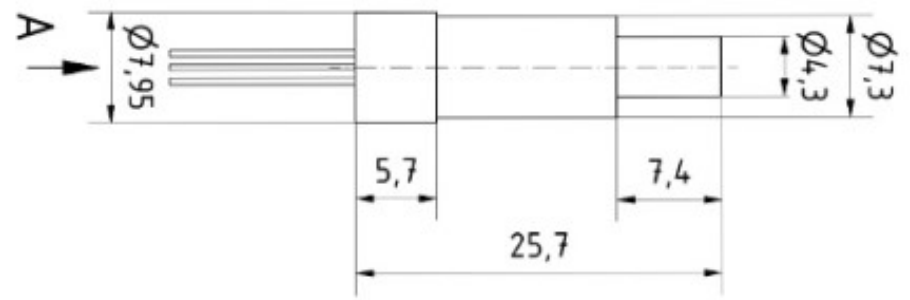
### LC



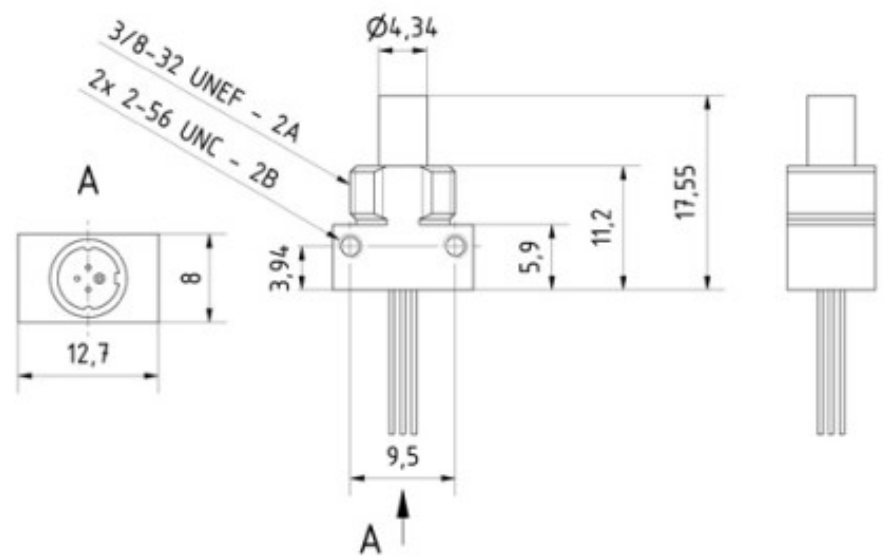
### SC



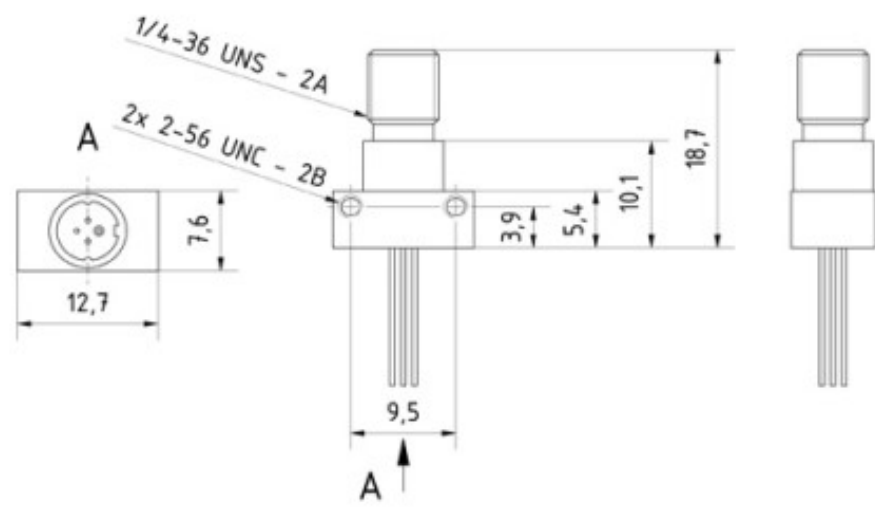
### U2



### U3



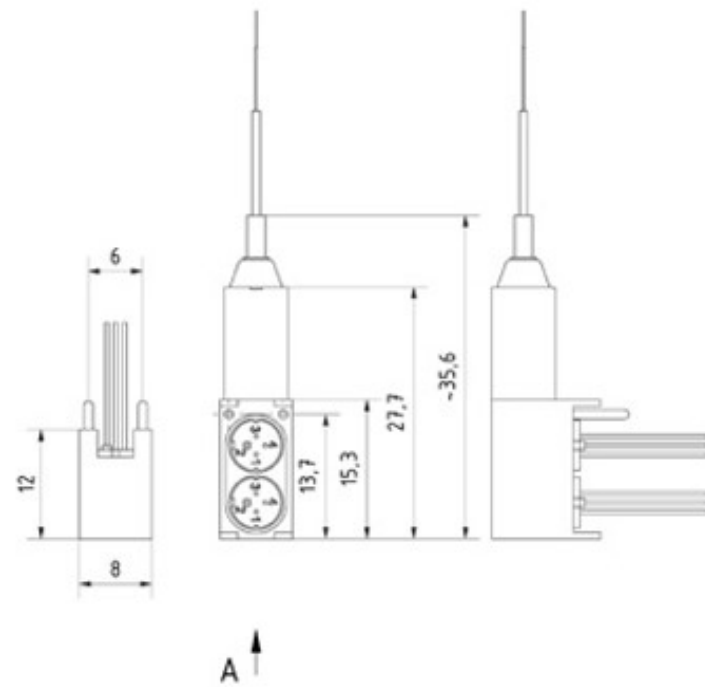
### SMA1



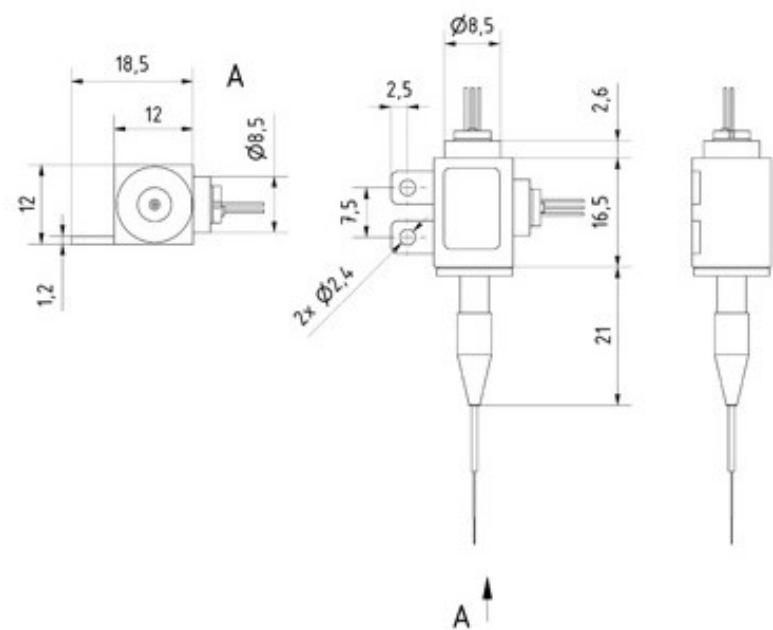
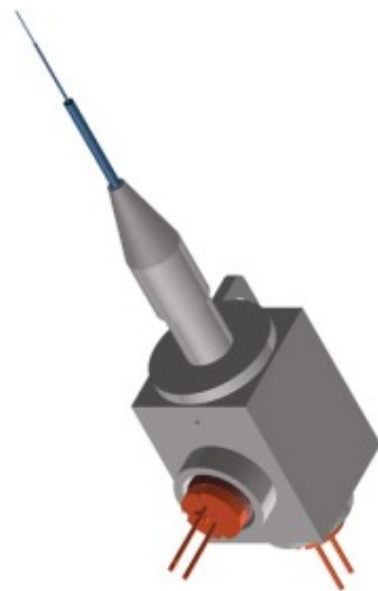
## Multiplex Modules

Units shown represent a fraction of solutions designed to customer specification. Due to IMM's platform strategy they are able to reconfigure within a short period of time.

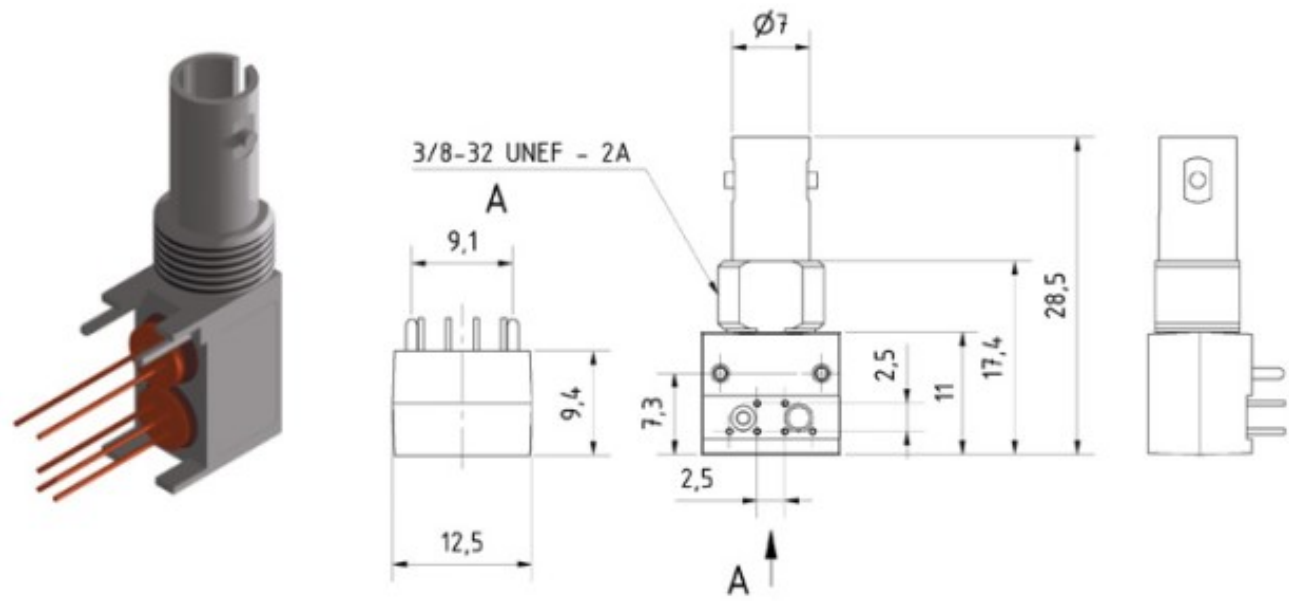
## Pigtail Duplex



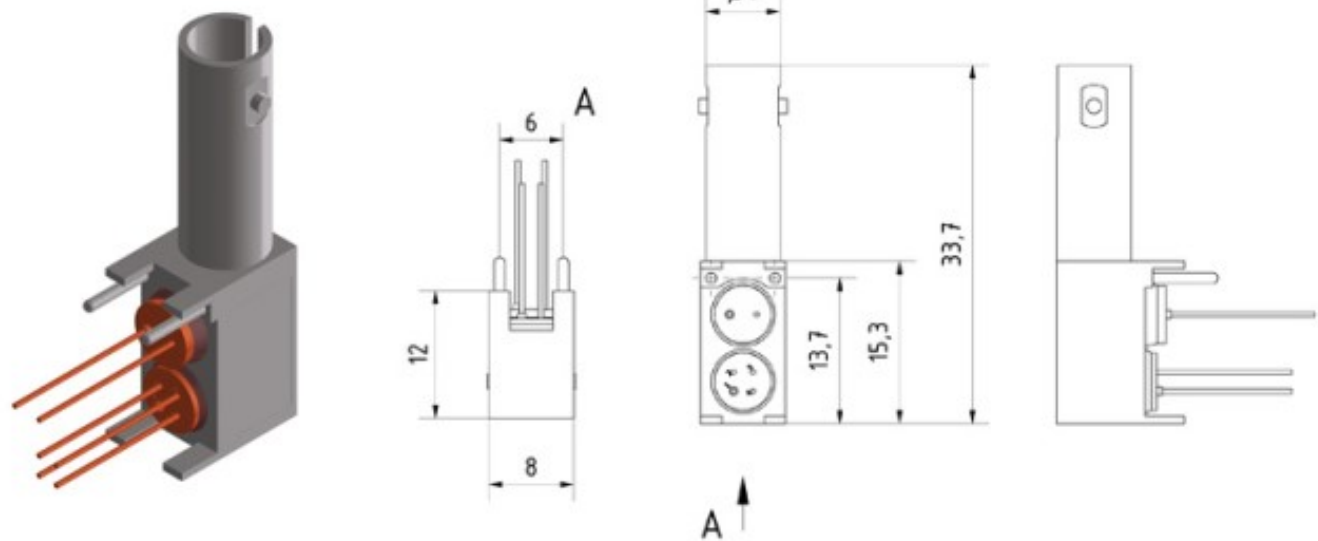
## Pigtail Duplex Tall



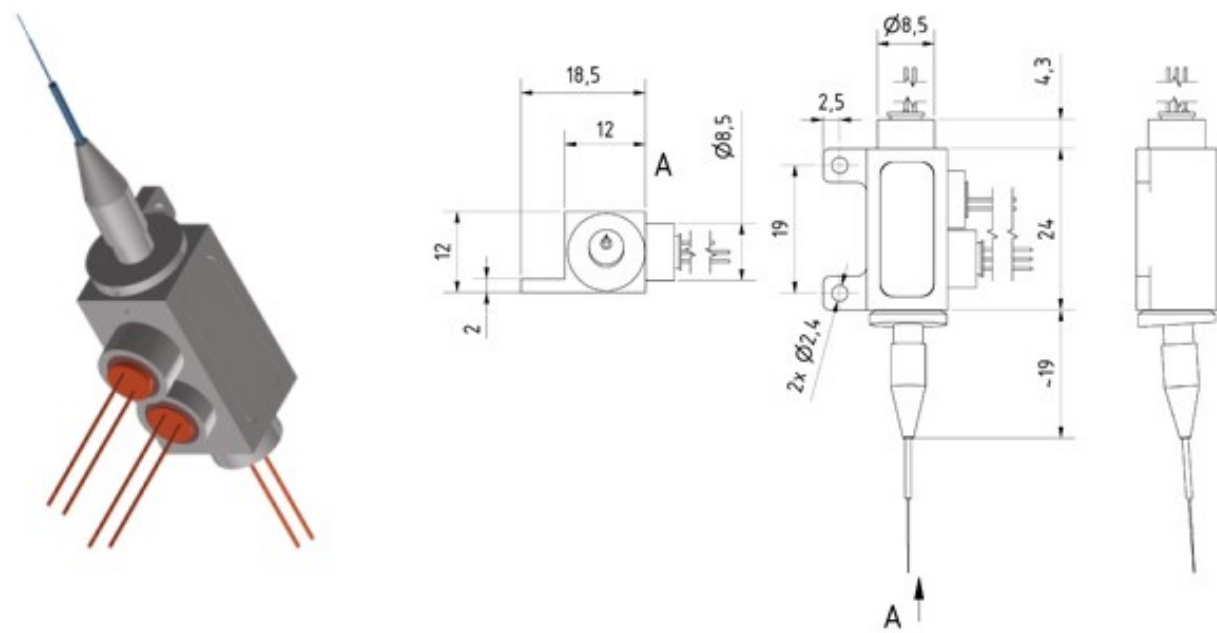
## ST Duplex with Thread



### ST Duplex without Thread



### Pigtail Triplex



### Pilot Laser Red/Green

IMM Photonics has developed a new duplex module as a pilot laser for high-power laser systems for the use in medical engineering or material processing.

Features: A stop filter was integrated for safe usage in high-performance lasers. It prevents reflections of the beam from affecting the laser diodes.

Advantages: Small dimensions, high mechanical stability, multiple adjustment possibilities, cost-efficient even with small volumes as a standard design.



A red (635 nm) and a green laser diode (520 nm) are coupled on a common fiber. The fiber end can either be bare or equipped with all readily available fiber optic connectors during production. Other fibers and fiber lengths are available upon request.

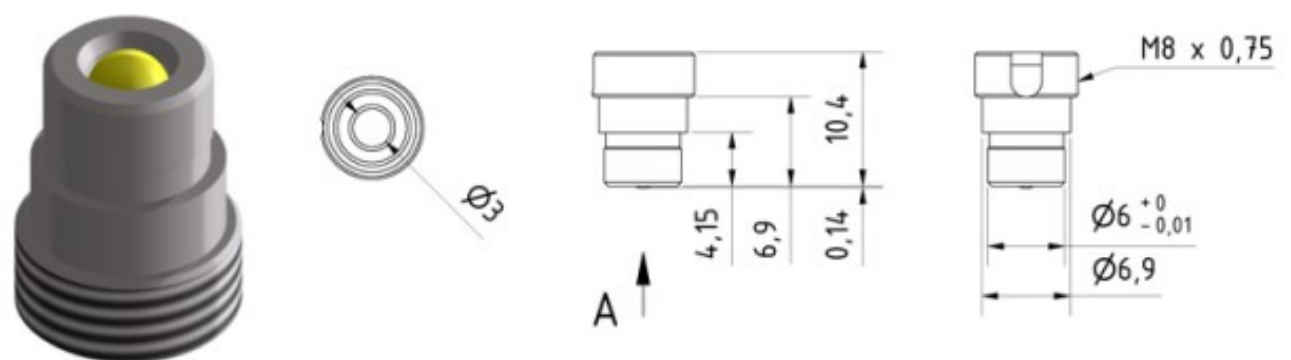
Wavelength	520 nm	635 nm
Optical Power ex fiber	typ. 20 mW	typ. 8 mW
Fiber	50 $\mu$ m, NA 0.22	
Fiber Length	typ. 35 cm	
Connector	typ. FC / PC; optional: bare fiber, ST, SC...	
IR Filter	ja	

[Datasheet](#)

### Ball Fiber Collimator with ST or FC Connector

Parameter @ T = 25 °C, 4/125 $\mu$ m, N.A. 0.11	Min	Typ	Max
Focal Length f'		1.8 mm	
Clear Aperture			3.0 mm
Collimated beam diameter @ 1/e <sup>2</sup>		0.75 mm	
Beam divergence			1 mrad
Focused beam diameter @ 1/e <sup>2</sup> :			
at distance 0.5 m		1.75 mm	
at distance 1.0 m		2.75 mm	
at distance 5.0 m		10.75 mm	

### FC:BFC3FC



### ST:BFC3ST



