



## (18+1) x1 Pump and Signal Combiner

### Key Features

- High Power Transfer Efficiency
- Low signal insertion loss
- High power package
- Freely selectable signal and pump wavelength
- Custom Configurations Available

### Applications

- Pumping of fiber laser and amplifier
- Pumping of multi-core and large mode area fibers (LMA)
- Pump combiner for Nd-, Yb-, Er-, Ho-, Tm-fiber
- Industrial, Biomedical, Telecommunication
- Metrology, Life Science, Imaging, Quantum optics
- Gravitational wave detection, Atom cooling and trapping

DK Photonics' (18+1) x1 Multimode Pump and Signal Combiner is designed for high power applications. It features exceptional optical characteristics. These devices can combine N pump lasers and 1 signal channel into one fiber and create a high-power pump laser source, delivering the combined power for applications in industrial, military, medical and telecommunications markets. It has a heat sink package and a hole for temperature monitoring.

DK Photonics' Multimode Pump and Signal Combiners offer efficient power transfer for high power applications like direct diode materials processing and pump cascading with a maximum conservation of brightness. The Multimode Combiners can be designed to meet a wide range of power handling configurations, number of input fibers and adaptation to different fiber types.



## For more Info

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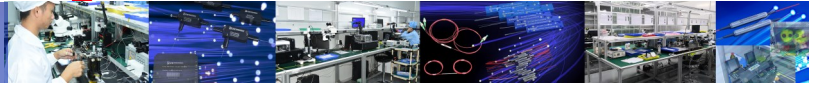
### Package Information:

Package Type	P3	P4
Dimensions (mm)	80x12x8	100x15x10

\*Due to ongoing design improvements, the package size is subject to change. According to the different configuration, power handling, and fiber core diameter, we will choose the appropriate package size. Please contact DK Photonics for confirmation.

\*High power device package must be mounted onto heat sink (active cooling is suggested) with thermal paste.

# (N+1) x1 Pump and Signal Combiner



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### General Configuration:

Parameters	Values				
Signal Operating Wavelengths	1020-1080nm	1020-1080nm	1020-1080nm	1530-1575nm	1950-2050nm
Pump Operating Wavelengths	780-1000nm	780-1000nm	780-1000nm	780-1000nm	780-1000nm
Number of Multimode Inputs	18	18	18	18	18
Number of Signal Ports	1	1	1	1	1
Number of Output Ports	1	1	1	1	1
Pump Input Fiber	105/125μm, NA0.15	105/125μm, NA0.22	105/125μm, NA0.22	105/125μm, NA0.22	105/125μm, NA0.22
Signal Input Fiber	HI1060 or 6/125 DC	HI1060 or 6/125 DC	10/125μm, NA0.08/0.46	12/130μm, NA0.20/0.46	10/130μm, NA0.15/0.46
Output Fiber	25/250μm, NA0.06/0.46	20/400μm, NA0.06/0.46	25/400μm, NA0.06/0.46	25/300μm, NA0.09/0.46	25/400μm, NA0.09/0.46
Min. Pump Efficiency	93%	95%	95%	93%	95%
Max. Signal Insertion Loss	0.80dB	0.80dB	0.80dB	0.80dB	0.80dB
Power per Multimode Input	25W	50W	50W	30W	30W
Optical Return Loss - Pumps			>35dB		
Optical Isolation			>20dB		
Max. M <sup>2</sup>			1.3		
Operating Temperature			0~75°C		
Storage Temperature			-40~85°C		

Remark:

- \* Other configuration and higher power handling can be customized.
- \* Other pump fibers 106.5/125μm, NA0.22, or 135/155μm, NA0.22 can be customized.
- \* All combiners default with bare fiber, 0.8m length of pigtail, please contacts us for special request.

### Order information P/N: PSC-A-B-C-D-E-F-G-H

When you inquire, please provide the correct P/N number according to our ordering information, and attach the appropriate description would be better. If need any connector, we do not recommend choosing a 250μm bare fiber pigtail.

A	B	C	D	E	F	G	H
Port	Pump Type	Signal Wavelength	Power per Multimode Input	Pump Fiber	Signal Fiber	Output Fiber	Fiber length
181: (18+1) x1	F:Forward pump B:Backward pump	30:1030nm 64:1064nm	25:25W 50:50W XX: Other	XXX (fiber code)	XXX (fiber code)	XXX (fiber code)	08:0.8m (default) 10:1.0m 20:2.0m

**Part Number Example:** PSC-181-F-64-25-105/125/022-10/125/08D-20/400/06D-08

**Description:** (18+ 1) x 1 Pump and Signal Combiner, 1064nm signal wavelength Forward pump, 25W per pump power, 105/125μm,0.22NA input pump fiber, 10/125μm, 0.08/046NA input signal fiber, 20/400μm, 0.06/046NA output fiber, 0.8m fiber length.

### Ordering Information for Custom Parts

If you need to customize other specifications, please provide detailed description for your requirement.