

# MASTER CLASS PATCHCORDS

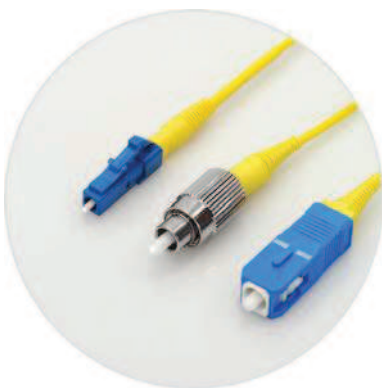
Master Class fiber optic patchcords are specifically designed to measure and test telecommunication networks and optical elements. The Master Patchcord is equipped with the highest quality master connector of tightly controlled concentricity and bore angle as well as the end face geometric parameters, which determine very low Insertion Loss and high connection repeatability.

Optical measurements, in accordance with PN-EN 61280-4-2/-4-1, PN-ISO/IEC 14763-3, ITU-T G.650.3 require the use of the Master Class patchcord. Patchcords can be terminated with two connectors of Master Class or a mixed option: a connector of the Master Class - a standard connector, polished of the Gold Grade. Fibrain Master Class of fiber optic connectors can be characterized by very low Insertion Loss and increased control of the ferrule's and face geometry. The control over the end face geometry after polishing process of a fiber optic termination provides the following benefits: guarantees optical performance, minimizes IL, and minimizes back reflection.

Series	Connector A		Connector B		Length [m]	Cable	Fiber	Diameter	Color		
	Class	Type	Class	Type							
MP	M Master	SC	M Master*	SC	001.0	SX patchcord simplex	A SMF G.652D	18 1.8mm	Y	■	
		SCA	G Gold	SCA							D G657A1
		LC		LC							
		LCA		LCA							
		FC		FC							
		FCA		FCA							
				E2							
				E2A							
				ST							
				MU							
		DIN									

\* Master Connectors in accordance with the table of availability

**MP-MSCA-MSCA-002.0-SX-A-18-Y** Fibrain Master Class Patchcord, with SC APC Master class Connectors at both side, simplex, 2m length, G.652D, cable diameter 1.8mm, yellow coat.



## Features

- Comply with IEC, TIA/EIA requirements,
- High quality and repeatability of the transmission parameters,
- High quality ceramic ferrules with tightly controlled concentricity and bore angle,
- Very low IL value,  $IL_{TYP} \leq 0.05$  dB,
- Connectors are constructed from high quality plastic, resistant to corrosion and high temperatures with UL94-V0 flammability index.

## Applications

- Measurements concerning telecommunication networks,
- Testing optical devices,
- Measuring equipment,
- CWDM networks
- Local area network (LAN),
- FTtx, FTTD, FTTB, FTTH networks,
- CATV solutions.

## Technical specifications

Parameter	SM PC Connectors	SM APC Connectors
Insertion Loss <sup>MAX</sup> Acc. IEC 61300-3-34	$\leq 0.10$ dB	$\leq 0.10$ dB
Insertion Loss <sup>97%</sup> Acc. IEC 61300-3-34	$\leq 0.07$ dB	$\leq 0.07$ dB
Insertion Loss <sup>MEAN</sup> Acc. IEC 61300-3-34	$\leq 0.05$ dB	$\leq 0.05$ dB
Return Loss Acc. IEC 61300-3-6	$\geq 55$ dB	$\geq 65$ dB

## Master Connector End Face Geometry

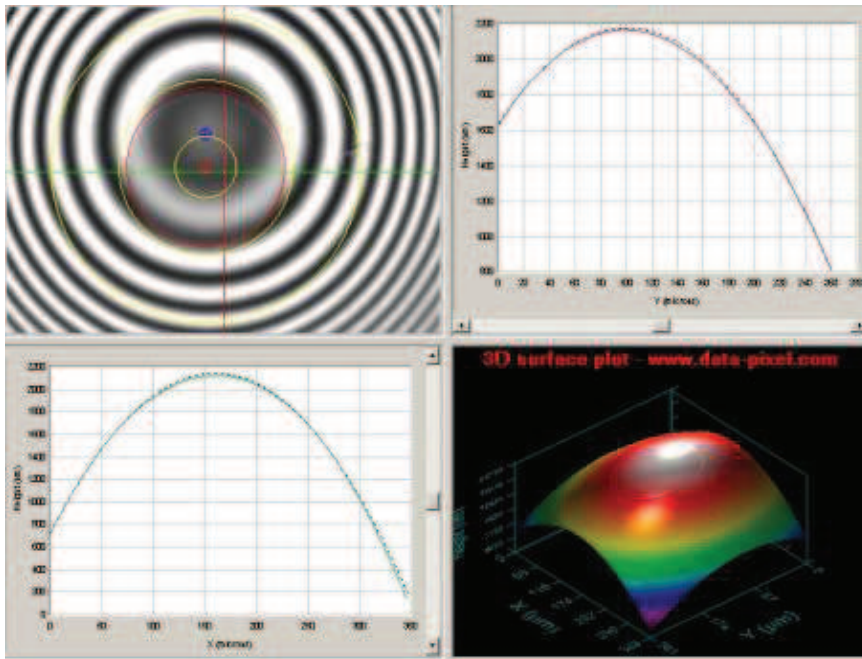
Parameter	SM PC Connectors	SM APC Connectors
Concentricity	$\leq 0.30$ $\mu$ m	$\leq 0.30$ $\mu$ m
Bore angle	$\leq 0.20$ degree	$\leq 0.20$ degree
Apex Offset (AO)	$\leq 30$ $\mu$ m	$\leq 30$ $\mu$ m
Radius of Curvature (ROC)	$10 \leq ROC \leq 20$ mm @ SC	$7 \leq ROC \leq 12$ mm
	$7 \leq ROC \leq 25$ mm @ LC	
Fiber Height (FH)	$-30.0 \leq FH \leq +30.0$ nm	$-30.0 \leq FH \leq +30.0$ nm
Angle (AN)	-	$7.7 \leq AN \leq 8.3$ degree

# MASTER CLASS PATCHCORDS & PIGTAILS

## Available connectors

Connector type	Master Class	Gold Grade
SC PC	☑	☑
SC APC	☑	☑
LC PC	☑	☑
LC APC	☑	☑
FC PC	☑	☑
FC APC	☑	☑
ST PC	-	☑
E2000 PC	-	☑
E2000 APC	-	☑
DIN	-	☑
MU	-	☑

Detailed reports containing test results with individual measurements of Insertion Loss (IL) and Return Loss (RL) as well as end face geometry are attached with Master Class Patchcords.



## Features

- Comply with IEC, TIA/EIA requirements,
- High quality and repeatability of the transmission parameters,
- High quality ceramic ferrules with tightly controlled concentricity and bore angle,
- Very low IL value,  $IL_{TP} \leq 0.05$  dB,
- Connectors are constructed from high quality plastic, resistant to corrosion and high temperatures with UL94-V0 flammability index.

## Applications

- Measurements concerning telecommunication networks,
- Testing optical devices,
- Measuring equipment,
- CWDM networks
- Local area network (LAN),
- FTTx, FTTD, FTTB, FTTH networks,
- CATV solutions.

## Technical specifications

Parameter	SM PC Connectors	SM APC Connectors
Insertion Loss <sup>MAX</sup> Acc. IEC 61300-3-34	≤ 0.10 dB	≤ 0.10 dB
Insertion Loss <sup>97%</sup> Acc. IEC 61300-3-34	≤ 0.07 dB	≤ 0.07 dB
Insertion Loss <sup>MEAN</sup> Acc. IEC 61300-3-34	≤ 0.05 dB	≤ 0.05 dB
Return Loss Acc. IEC 61300-3-6	≥ 55 dB	≥ 65 dB

## Master Connector End Face Geometry

Parameter	SM PC Connectors	SM APC Connectors
Concentricity	≤ 0.30 μm	≤ 0.30 μm
Bore angle	≤ 0.20 degree	≤ 0.20 degree
Apex Offset (AO)	≤ 30 μm	≤ 30 μm
Radius of Curvature (ROC)	10 ≤ ROC ≤ 20 mm @ SC 7 ≤ ROC ≤ 25 mm @ LC	7 ≤ ROC ≤ 12 mm
Fiber Height (FH)	-30.0 ≤ FH ≤ +30.0 nm	-30.0 ≤ FH ≤ +30.0 nm
Angle (AN)	-	7.7 ≤ AN ≤ 8.3 degree