

## Optical Connector Performance

Connector Type		MU-Type Plug MU-Type Adaptor (with shutter)		
Item number		[Plug] LGC-PH6( )+R LGC-( )2PH6( )+R [Adaptor] LGC-( )SA6( )		
Quotation standard		JIS C5983 F14 Type Connectors for Optical Fiber Cables		
Classification	Test item		Requirement condition	Test method (JIS C 5961-2005)
	No.			
Structure	1	Appearance, Construction and Dimensions	Accordance to production drawing and quotation standard.	5. , 6.
	2	Fitting	Engagement without mechanical abnormality.	5.
Optical performance	3	Insertion Loss	Single mode optical fiber Ins. : $\leq 0.5\text{dB}$ (Plug) Ins. : $\leq 0.3\text{dB}$ (Adaptor)	7.1 ·Kind of light source : Single-mode optical fiber : Wavelength : $1.3\mu\text{m}$ LD ·Measuring method : 4 (Plug) ·Measuring method : 5 (Adaptor)
	4	Reflection Attenuation	Reflection : $\geq 25\text{dB}$ (PC Polishing Plug) Reflection : $\geq 40\text{dB}$ (AdPC Polishing Plug)	7.2 ·Wavelength : $1.3\mu\text{m}$ LD
	5	Shading	Shading on optical axis line : $\geq 15\text{dB}$	(company standard) ·Wavelength : $1.3\mu\text{m}$ LD
Mechanical performance	6	Vibration	·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test : $\geq 25\text{dB}$ (PC Polishing Plug) : $\geq 40\text{dB}$ (AdPC Polishing Plug) ·There shall be no physical or mechanical damage to the connector.	8.1 ·Vibration frequency range : $10\sim 55\text{Hz}$ ·Amplitude(one side) : $0.75\text{m}$ ·Axis : X,Y,Z 3 axes
	7	Shock		8.2 ·Peak acceleration : $981\text{m/s}^2$ ·Test condition : 10 times in each X,Y,Z 3 axes
	8	Repetitive Operation (Plug engagement and disengagement)		8.3 ·Operation times : 500 times
	9	Gauge Retention Force	Retention force : $1.0\sim 2.5\text{N}$	8.4 ·Detail of gauge : $\phi 1.249\pm 0.0005\text{mm}$
	10	Ferrule Thrust	Thrust : $5.5\sim 6.5\text{N}$	8.5
	11	Engagement and Separation Force (When simplex plug)	Engagement and Separation force : Single-ports : $\leq 20\text{N}$ 2-ports : $\leq 30\text{N}$	8.13
12	Robustness of Connection at Joint	Robustness of connection at joint: $\geq 70\text{N}$	8.6 (When simplex plug and duplex adaptor)	

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Mechanical performance	13	Fiber cable retention	·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test : $\geq 25\text{dB}$ (PC Polishing Plug) : $\geq 40\text{dB}$ (AdPC Polishing Plug) ·There shall be no physical or mechanical damage to the connector.	8.11 ·Tensile force : 70N (When simplex plug and duplex adaptor)																
	14	Robustness of Optical Fiber Cord (Bending)		8.12 ·Tensile force : 5N , $\pm 90^\circ$ ·Operation times : 100 times (When simplex plug and duplex adaptor)																
Environmental performance	15	Salt mist	·There shall be no corrosion to the connector.  ·Ins. loss after test : $\leq 0.5\text{dB}$ ·Reflection after test : $\geq 25\text{dB}$ (PC Polishing Plug) : $\geq 40\text{dB}$ (AdPC Polishing Plug) ·There shall be no physical or mechanical damage to the connector.	9.1 ·Test duration : 48h ·Concentration : $5 \pm 1\%$																
	16	Change of Temperature		9.2 ·Temperature : $-25 \sim 70^\circ\text{C}$ ·Class of Test : Nb ·Test duration : 1.5h/cyc. ,100cyc.																
	17	Humidity (cyclic)		9.4 ·Temperature : $-10 \sim 25 \sim 65^\circ\text{C}$ ·Humidity : $93 \pm 3\%$ ·Test duration : 24h/cyc. ,20cyc.																
	18	Dry Heat		9.5 ·Temperature : $85^\circ\text{C}$ ·Test duration : 240h																
	19	Cold		9.6 ·Temperature : $-25^\circ\text{C}$ ·Test duration : 240h																
Note	·Insertion loss measurement was measured by master code. ·The adaptor was evaluated together with the plug. ·When a outside diameter of fiber was $\phi 0.9\text{mm}$ , No.12 and No.13 of a test item did not measure.			<table border="1"> <tr> <td></td> <td>Prepared</td> <td>Checked</td> <td>Approved</td> </tr> <tr> <td>By</td> <td>N.goto</td> <td>T.Yoshizaki</td> <td>T.Eguchi</td> </tr> <tr> <td>Signature</td> <td><i>n.goto</i></td> <td><i>T.Yoshizaki</i></td> <td><i>T.Eguchi</i></td> </tr> <tr> <td colspan="2">Honda Tsushin Kogyo Co.,Ltd. Tokyo Japan</td> <td colspan="2">Date : April 28,2006</td> </tr> </table>		Prepared	Checked	Approved	By	N.goto	T.Yoshizaki	T.Eguchi	Signature	<i>n.goto</i>	<i>T.Yoshizaki</i>	<i>T.Eguchi</i>	Honda Tsushin Kogyo Co.,Ltd. Tokyo Japan		Date : April 28,2006	
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