

Specification
for
Optical Fiber Cable
Assemblies
for CC-Link IE Controller network

Type QG-G50-2C-□M-AW

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Note

Revision				Drawn	Check	Design	Approved
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Send to				Date		Dwg	
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				Order			

1. SCOPE

This specification covers the requirements for the optical cable assemblies type QG-AW for CC-Link IE.

※ The Products covered in this specification don't include the toxic substances in RoHS2.

2. USE ENVIRONMENT

The cable shall be used in following conditions.

- ① Control box
- ② Rack
- ③ Duct
- ④ Free access

※ Possible when external force is not applied by protecting the bent part, contact part, etc.

3. LENGTH OF CABLE

The maximum length of the cable is one kilometer.

(The maximum length of the cable with connector is 550 meters.)

4. CABLE TYPE

■For with connector

QG - G50 - 2C - □M - AW - ○
 (1) (2) (3) (4) (5) (6)

■For cable only

QG - G50 - 2C - AW □m
 (1) (2) (3) (5) (4)

(1) Cable series name	Optical cable for CC-Link IE
(2) Type of optical fiber cord	G50:Core diameter 50 μm GI optical fiber
(3) Number of Optical Fiber	2C: Duplex cord
(4) Length of cable	□ : 1~1000 (Cable only) 1~550 (With connector)
(5) Cable type	A pair of control box type
(6) Applicable connector	LL: LC duplex connectors on both sides LS: LC duplex connector on one side - SC connector on one side LF: LC duplex connector on one side - FC connector on one side LN: LC duplex connector on one side - no connector on one side ※1 SS: SC connectors on both sides FF: FC connectors on both sides SF: SC connector on one side - FC connector on one side

※1 : After processing the connectors on both ends, the loss is measured and the connector on one end is cut.

5. CORD CONSTRUCTION

The construction of the optical fiber cord shall be in accordance with Table 1.

Table 1. Cord construction

No.	Item	Construction			
	Type	GI optical fiber (multi mode)			
	Conforming Standard	IEC60793-2-10 A1 a.1			
①	Core	Materials	Silica Glass		
		Diameter	$50 \pm 2.5 \mu\text{m}$		
②	Cladding	Materials	Silica Glass		
		Diameter	$125 \pm 1 \mu\text{m}$		
③	Protective Coating	Materials	Zero Halogen		
		Diameter	$0.9 \pm 0.1\text{mm}$		
	Identification	See Fig.1			
④	Sheath	Materials	PVC (Orange)		
		Diameter	$2.0 \pm 0.2\text{mm} \times 2$		
	Approximate Net Weight	8 kg/km			
		Min	Max	Unit	Conditions
	Operating Temperature	-20	60	°C	—
	Maximum Tensile Load	—	60	N	By careless handling (short term)
	Minimum Radius Bend	15	—	mm	After careless handling

6. OPTICAL CHARACTERISTICS

The optical characteristics is listed in Table2 .

Table 2. Optical characteristics

Items	Construction
Attenuation	$3.0\text{dB}/\text{km}$ or under [$\lambda=850\text{nm}$]
	$1.0\text{dB}/\text{km}$ or under [$\lambda=1300\text{nm}$]
Bandwidth	$500\text{MHz} \cdot \text{km}$ or over [$\lambda=850\text{nm}$]
	$500\text{MHz} \cdot \text{km}$ or over [$\lambda=1300\text{nm}$]

7. OPTICAL CONNECTOR CONSTRUCTION

Table 3. Optical connector construction

Item	Specification		
Product name	LC duplex connector	SC connector	FC connector
Type of optical connector	DLCF-G50-D2	DSC-G50-D2	DFC-G50-D2
Standard	IEC61754-20	IEC61754-4	IEC61754-13
Connection loss (in respect to master fiber)	0.3dB or less		
Polishing method of connector	PC polish		
Operating Temperature	-40~+85°C		
Connection method	Cross connection (Connect the A side connector on one end to the B side connector on the other side) ※4		

※4 For LC duplex connectors on both sides.

8. MARKING

The optical cord shall be printed following marking format on the one side of sheath by regular interval.

- Marking content : CC-Link IE QG-G50-2C-AW
- Marking pitch : 300mm
- Marking color : Black



Fig.1 Marking of Optical Fiber Cord

※ Please acknowledge it though the print display might rub when transporting, and careless handling it and it disappear.

9. CONSTRUCTION FIGURE

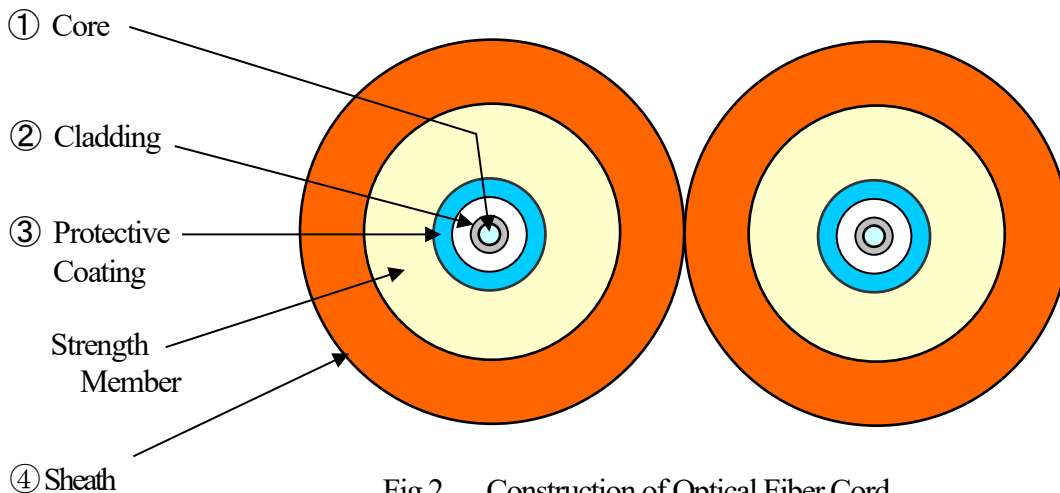


Fig.2 Construction of Optical Fiber Cord

10. CONFIGURATION

[LCF connectors on both sides]

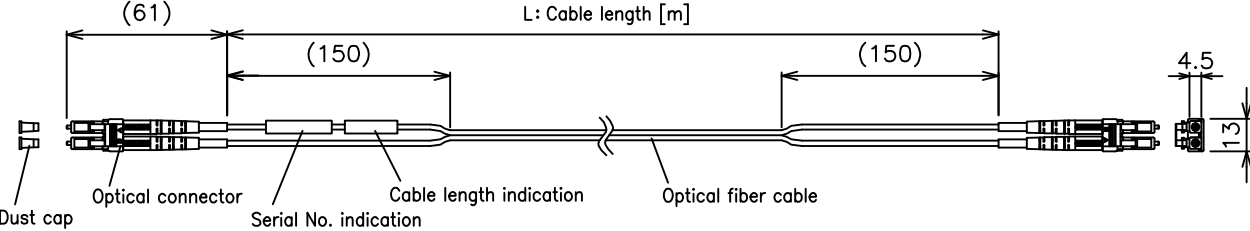


Fig 3. Configuration of Optical Fiber Cable

[mm]

[SC connectors on both sides]

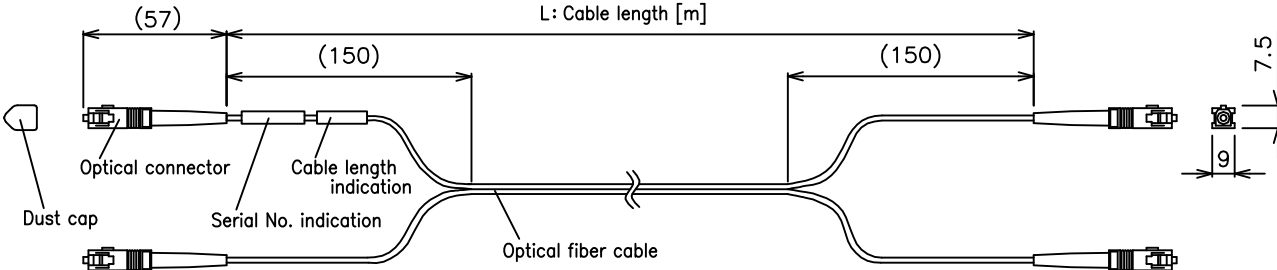


Fig 4. Configuration of Optical Fiber Cable

[mm]

[FC connectors on both sides]

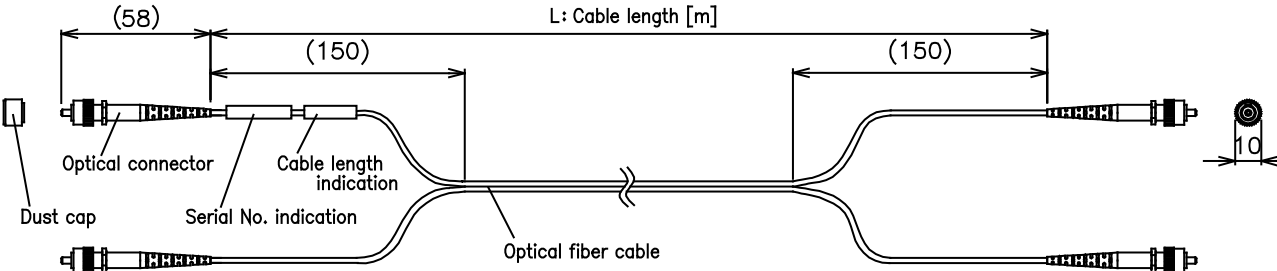
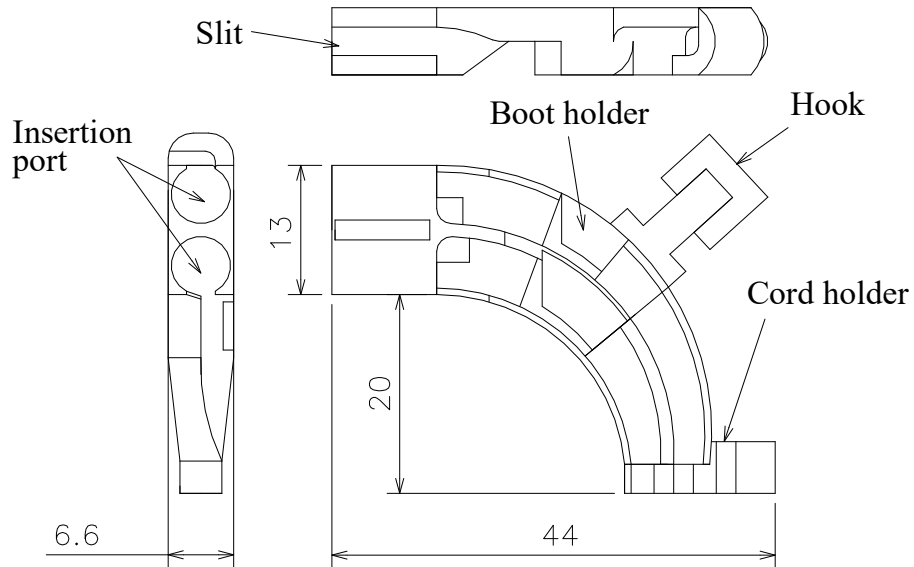


Fig 5. Configuration of Optical Fiber Cable

[mm]

11. OTHERS

Protective holder



Item	Specification
Applicable optical fiber cable	QG Series
Applicable connector	LC duplex connector (DLCF-G50-D2)
Materials	PC (Black)
Operating Temperature	-20~+60°C

Note) Never mount this product onto connector other than the Mitsubishi connector or use a damaged protective holder. Failure to observe this could result in damage or increased losses.