

Customer : General User

General Specification

Model : FTSM

Revised : 25th April, 2019

OPHIT Co., Ltd.

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Yeongtong-Gu, Suwon-City, Kyungki-Do, Korea

1. Revision History

Version	Revision Date	Author	Description of Changes
0.1	25/04/2019	J. H. LIM	1 st Version Specification Define

< Revision History >

2. Product Overview

2.1 Introduction

The FTSM is one of OPHIT's 4K Optical Extender family, which converts 12G SDI video/audio signals into optical signals for long distance transmission.

The FTSM consists of a pair of transmitter and receiver and can transmit up to 12G SDI signals on a single port.

It is made in a small size for easy installation and portability, and the transmitter and receiver are the same size.

2.2 Features

- 12G-SDI Ultra HD Video and audio signal optical extender for long distance
- Maximum transmission distance
 - ✓ Optical cable : Max. 5km (LC Type single mode fiber)
 - ✓ Electrical cable : Max. 70m (Each source/sink side, Belden 1694A at 11.88Gbps (12G SDI))
- Supports video pathological patterns for SD-SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI
- SMPTE 424M, SMPTE 292M, SMPTE 344M, SMPTE 259M, and DVB-ASI compliant
- MADI (125 Mbps) compatible
- Supports Long reach adaptive cable equalizer (Transmitter), cable driver (receiver) function
- SD / HD / 3G / 6G / 12G-SDI SFP Transceiver/receiver available
- Compliant with SFP MSA and SFF-8472 with duplex LC receptacle
- Standalone small box type
- DC 5V Adaptor

2.3 Applications

- Professional broadcasting and production studios
- Medical Center and laboratory
- Presentation application
- Display application

3. Specification

3.1 General Specification

Parameter	Transmitter	Receiver
Input Signal	SDI (BNC)	Optical (LC)
Output Signal	Optical (LC)	SDI (BNC)
Bandwidth	270Mbps ~ 11.88Gbps	
Maximum Supporting Resolution	12G-SDI (3840x2160@60hz)	
Optical Converter	1310nm, 1Ch Transmitter	1310nm, 1Ch Receiver
Recommended Fiber	LC Type Single-mode fiber	
Module Dimension	59 x 27.3 x 27 mm (W x D x H)	
Module Weight	110g	110g

< General Specification >

※ Internally Multi-mode fiber (OM3 cable) test passed (Length : Max. 200m)

3.2 Indicate LED Status Description

LED		Power (Green)	Active (Orange)
ON	TX	Power ON, Operation Ready	Signal Detect and Optical TX OK
	RX		Optical RX OK and Signal Detect
OFF	TX	No Power	No Signal or Optical TX Error
	RX		No Signal or Optical RX Error

< LED Status Specification >

3.3 Power Specification

Parameter		Symbol	Min	Typ	Max	Units	Condition
POWER	Supply Voltage	Vcc		+ 5		V	
	Supply Current	Icc		200		mA	Standby
				300			Working
	Power Dissipation	Po		1.0		W	Standby
				1.5			Working

< Power Specification >

4. Connector Pin Assignment

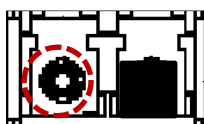
4.1 BNC Connector

Pin	Signal Assignment
center	Electrical SDI Signal (+)

Female Connector
<SDI BNC type>

4.2 SFP Module Connector

■ TX module (Front View)



Female Connector
<LC type>

Pin	Signal Assignment
Left	Optical output
Right	Not use

■ RX module (Front View)



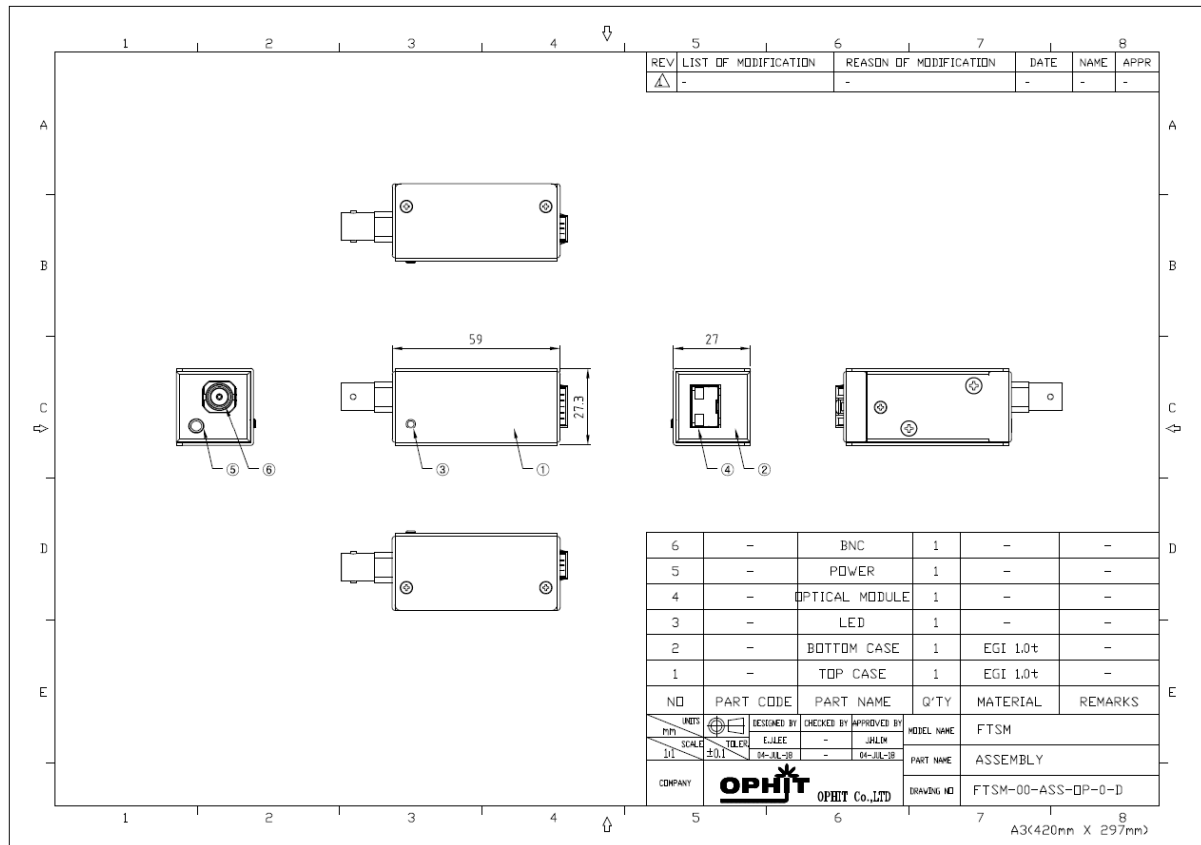
Female Connector
<LC type>

Pin	Signal Assignment
Left	Not use
Right	Optical Input

5. Dimension

■ FTSM Construction Features

- BNC x 1, SFP LC Type x 1, Indicate LED x 1, DC Jack x 1
- 59mm (W) x 27.3mm (D) x 27mm (H) size



< FTSM Dimension >

6. Manual

- Installation and operating manual shall be provided
 - English

7. Certifications

- CE, FCC

8. Environment Requirement

8.1 Operating

- Temperature : 0°C ~ +50°C
- Humidity : 10 ~ 80 %, Non-Condensing

8.2 Storage

- Temperature : -10°C ~ +70°C
- Humidity : 10 ~ 80 %, Non-Condensing

8.3 Transportation

- Temperature : -10°C ~ +70°C
- Humidity : 10 ~ 80 %, Non-Condensing

9. Absolute Maximum Ratings

Parameter	Rating
Storage temperature	-10°C ~ +70°C
Operating temperature	0°C ~ +50°C
Power Supply	-0.3 ~ +5V
Relative Humidity	10 ~ 80 %
Lead solder temperature	380°C +/-30°C, 10 seconds

< Absolute Maximum Ratings >

NOTICE

Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

10.RoHS



Declaration of RoHS Compliance

DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 27. January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Product Name : FTH

Hereby we guarantee that we do not intentionally use the substances described below and based on third party chemical analysis the thresholds of the substances as indicated are not exceeded for our products.

Banned Substances by RoHS Directive 2011/65/EU, EN50581:2012

Substance	RoHS Limity by Weight	RoHS Limity by % (PPM)
Lead (Pb)	1000mg/kg	0.1% (1000 PPM)
Mercury (Hg)	1000mg/kg	0.1% (1000 PPM)
Hexavalent Chromium (CR VI)	1000mg/kg	0.1% (1000 PPM)
Polybrominated Biphenyls (PBB)	1000mg/kg	0.1% (1000 PPM)
Polybrominated Diphenyl Ethers (PBDE)	1000mg/kg	0.1% (1000 PPM)
Cadmium (CD)	100mg/kg	0.01% (100 PPM)

Signature : Jong-kook. Moon

Title : CEO

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