



Customer :

Specification for

Model : FTSS

Original Release Date : May. 25. 2018

OPHIT

Revision History

| Version Number | Revision Date | Author | Description of Changes |
|-----------------------|----------------------|---------------|--|
| 0.11 | May. 22. 2017 | HS PARK | Initial Version |
| 0.12 | Oct. 23. 2017 | HS PARK | Correct ROHS, REACH Product name |
| 0.13 | Jan. 08. 2018 | HS PARK | Add MMF test result and correct the connector part |
| 1.0 | Jan. 16. 2018 | HS PARK | Mass production transfer |
| 1.1 | May. 25. 2018 | SY HAN | Change MMF Maximum Length |

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1. General Description

FTSS transmits very high speed 12G-SDI signals over long distances through Optical technics And it can transmit a maximum 4K Ultra HD resolution.

- 12G-SDI Ultra HD Video signal long distance optical extender
- Supports max resolution 4K 60p
- Supports video pathological patterns for SD-SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI
- Maximum transmission distance : Max 5km'
- Highest video signal with very low Latency
- SD / HD / 3G / 6G / 12G-SDI SFP Transceiver available
- SMPTE ST-297-2015, ST2081 and ST-2082 Compatible
- Compliant with SFP MSA and SFF-8472 with duplex LC receptacle
- Standalone small box type
- DC 5V Adaptor

2. General Specification

2.1 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 60p) | |
| Optical Converter | 1310nm, 1Ch Transmitter | 1310nm, 1Ch Receiver |
| Recommended Fiber | Single-mode fiber | |
| Module Dimension | 100 x 40 x 30 mm (W x D x H) | |
| Module Weight | 150g | 150g |

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

2.2 Led Work

| LED | | Power | Active |
|-----|----|---------------------------------|------------------------------------|
| ON | TX | Power In and 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 |

3. Absolute Maximum Ratings

| Parameter | Rating |
|-------------------------|---------------------------|
| Storage temperature | -20°C ~ +70°C |
| Operating temperature | 0°C ~ +50°C |
| Power Supply | -0.3 ~ +5 V |
| Relative Humidity | 10 ~ 80 % |
| Lead solder temperature | 380°C +/-30°C, 10 seconds |

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.

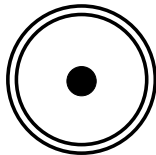
4. Electrical & Optical Specification

4.1 Electrical Specification

| | Parameter | Symbol | Min | Typ | Max | Units | Condition |
|-----------------------|---|--------|-----|-----|-----|-------|-----------|
| P O W E R | Supply Voltage (Option External Power) | Vcc | | + 5 | | V | |
| | Supply Current | Icc | | 200 | | mA | Standby |
| | | | | 300 | | | Working |
| | Power Dissipation | Po | | 1.0 | | W | Standby |
| | | | | 1.5 | | | Working |

4.2 Connector Pin Assignment

4.2.1 BNC Connector

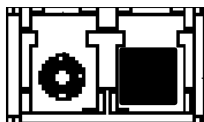


Female Connector
<SDI BNC type>

| Pin | Signal Assignment |
|-----|-------------------|
| 1 | 1 plus screen |

4.2.2 LC Output Connector

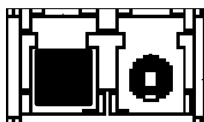
- TX module



Female Connector
<LC Connector type>

| Pin | Signal Assignment |
|-----|--------------------|
| 1 | SDI optical output |
| 2 | Not use |

- RX module



Female Connector
<LC Connector type>

| Pin | Signal Assignment |
|-----|-------------------|
| 1 | Not use |
| 2 | DI optical input |

- TX module is using the Left port
- RX module is using the Right port

5. Mechanical Specification

5.1 Case Dimension

- TX



- RX



6. 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 : FTSS

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) |

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7. REACH



**EUROPEAN UNION'S REACH REGULATION
DECLARATION CERTIFICATE**

The European REACH Regulation 1907/2006 on Registration, Evaluation, Authorization, and Restriction of Chemicals(REACH), Annex XVII entered into Force in June 2009, and affects all companies producing, Importing, using, or placing Products on the European market. The aim of the REACH regulation is to ensure a high Level of protection of human health and the environment from chemical substances.

OPHIT Co., Ltd substances management system follow and complies with the current revision of the REACH Regulation on the substances as identified by ECHA(European Chemical Agency).

OPHIT Co., Ltd products are considered articles as defined in REACH Article 3(3). These products/articles under normal and reasonable conditions of use do not have intended release of substances. Therefore the requirement in REACH Article 7(1)(b) for registration of substances contained in these products/articles does not apply.

OPHIT Co., Ltd products/articles, do not contain **Substances of very High Concern** or if there **SVHC** in the product/article, the content is less than the 0.1%(wt/wt) as defined by REACH Article 57, Annex XIV, Directive 67/548/EEC. Therefore the requirement in REACH Article 7(2) to notify ECHA if a product/article contains more than 0.1% wt/wt of an SVHC and tonnage exceeding 1 tone per importer per year is not applicable.

OPHIT's European operations do not manufacture or import chemicals, therefore OPHIT Co., Ltd has no obligation to resister substances.

-Model : FTSS

Jong-Kook, Moon

Jong-Kook, Moon
President

OPHIT Co., Ltd ACCEPTS NO DUTY TO NOTIFY USERS OF THIS OF DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION.

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