# CommLink FXC-S201 & FXC-3201

## Fiber Optic Intercom Link

## Robust voice and data connectivity for long distance applications.

The CommLink FXC-S201 and FXC-3201 from Grass Valley, a Belden Brand, is a fiber optic transceiver system that carries two intercom channels seamlessly over a single strand or dual strands of fiber spanning distances of more than 30 kilometers (18.6 miles). With advanced digital noise elimination circuitry, users won't know that they aren't connected by traditional copper wires.

The system works with the industry's most common 2-wire partyline intercom systems, as well as most digital matrix-style 4-wire intercom systems. All functionality of each intercom system is transported over the fiber link, including call signaling, matrix panel alphanumeric data and remote station controls. With its advanced auto-nulling hybrid technology, the sys-

tem acts as a noiseless hybrid between a 4-wire matrix system and a 2-wire partyline system.

The CommLink FXC-S201 can be powered from the partyline system or the with local 12 VDC and acts as a power supply for up to ten intercom belt packs.
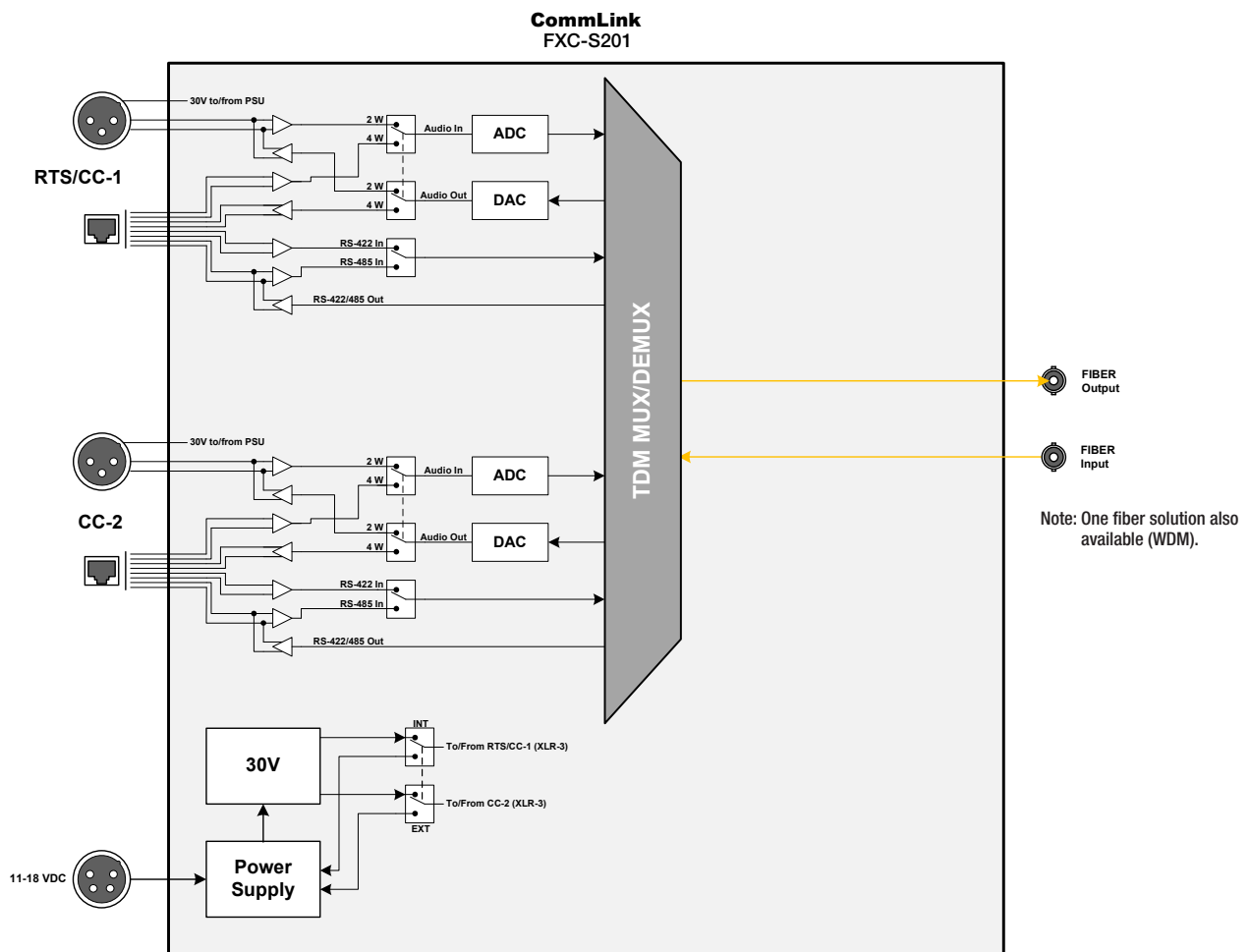
The CommLink FXC-3201 is a 3 RU Densité card version that fits within a Densité frame. It works as a fiber intercom extender for 2-wire (RTS & ClearCom) and 4-wire systems, with auto-nulling and 2-wire/4-wire conversion. Intercom connections are made using the FXC-3201-3DRP, a Densité double rear connector panel. It includes XLR 2-wire and RJ45 4-wire intercom connections and an available SFP slot.

# CommLink FXC-S201 & FXC-3201 Fiber Optic Intercom Link

- Transports two intercom channels via one or two strand of single-mode fiber up to 30 km (18.6 mi.)
  - Infrastructure fiber
  - TAC Cable
- Compatible with most partyline and digital matrix intercom systems
- 2-wire partyline
  - Clear-Com
  - RTS 2-wire
- Matrix
  - Clear-Com MatrixPlus/Eclipse
  - RTS 2-wire Adam/Cronus/Zeus
- Advanced automatic digital nulling
- Internal power supply can provide power for up to 10 Clear-Com or RTS 2-wire beltpacks

- Advanced hybrid interfaces two 2-wire intercom lines to two 4-wire lines
- Uses a single or dual common ST connector on the standalone version, and a single or dual LC connection on the Densité frame version
- Immune to RF interference and ground loops
- Front panel status monitoring
- Available in Mini-Mussel enclosure for harsh environments and as Densité card for permanent frame installations
- Acts as a standalone (non-fiber) dual-channel digital hybrid interface



CommLink
FXC-S201

Note: One fiber solution also available (WDM).

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## SPECIFICATIONS

### Intercom
**Number of intercom channels:** 2

### 2-Wire (TW/PL)
**Interface:**
Clear-Com PL: XLR3M x 2
RTS TW: XLR3M x 1

**Max level:** 2 Vp-p, at 1 kHz (equiv. to 18 dBu in 4 W)*

**Dyn. range:** >85 dB, ref. 2 Vp-p at 1 kHz **

**Freq. response:** 1/-3 dB, 70 Hz to 22 kHz, ref. 2 Vp-p*

**THD+N:** <1 % at 2 Vp-p*

**I/O impedance (100 Hz to 20 kHz):**
Termination engaged (internal power): 220Ω ±10%
Termination dis-engaged (external power): ≥10 kΩ

**Nulling:** Automatic DSP

### 4-Wire (4W) Ports
**Interface:**
Clear-Com MatrixPlus/Eclipse: RJ45 x 2
RTS Adam/Cronus/Zeus: RJ11 x 2

**Maximum level (I/O, unity gain):** +18 dBu

**Dynamic range:** >85 dB, ref. 18 dBu

**Frequency response:** 1/-3 dB, 35 Hz - 22 kHz, ref. 0 dBu

**THD+N:** <0.05 % at 17 dBu at 1 kHz

**Input impedance:** 10 kΩ balanced

**Output impedance:** 30Ω balanced

**Data:**
Clear-Com: RS-422
RTS: RS-485

**Crosstalk:** >85 dB

### Electro-Optical
**Operating wavelength, standard:**
1310 nm for dual fiber
1310/1550 nm for WDM single fiber

**Nominal optical loss budget values:**
TX laser output power (typical): -5 dBm
RX sensitivity (typical): -28 dBm

**Optical budget:** 23 dBm optical loss

**Fiber compatibility:** Single-mode

**Optical connector:**
Standalone version: ST
Densité frame version: LC

### Mechanical/Environmental
**Dimensions (W x H x D):**
Mini-Mussel without feet: 101.6 x 50.8 x 254 mm (4 x 2 x 10 in.)
Densité card without rear module: 216.23 x 122.68 mm (8.513 x 4.83 in.)

**Weight:**
Mini-Mussel: 1.27 kg (2.8 lbs.)
Densité card: 0.18 kg (0.4 lbs.)

### Power consumption:
2W with local power: 3W at 10-18 VDC
Powered from 2W system: 6W at 10-18 VDC
4W system: 3W at 10-18 VDC

**Temperature range:** 25 to 55° C (77 to 131° F)

**Humidity range:** 0 to 95% RH, non-condensing

*Properly terminated (internal or external).
Note: Maximum cable length varies due to optical cable quality, dirt/dust/contamination on connectors, and the number of inline connectors.

## ORDERING

### Mini-Mussel Throwdown

**FXC-S201-S13** CommLink, standalone fiber intercom extender for 2-wire (RTS & Clear-Com) and 4-wire systems; with auto-nulling and 2W/4W conversion. Dual fiber transceiver, 1310 nm, includes SFP.

**FXC-S201-W13** CommLink, standalone fiber intercom extender for 2-wire (RTS & Clear-Com) and 4-wire systems; with auto-nulling and 2W/4W conversion. Single fiber WDM, 1310 nm TX, 1550 nm RX, includes SFP. Use with -W15 at other end.

**FXC-S201-W15** CommLink, standalone fiber intercom extender for 2-wire (RTS & Clear-Com) and 4-wire systems; with auto-nulling and 2W/4W conversion. Single fiber WDM, 1550 nm TX, 1330 nm RX, includes SFP. Use with -W13 at other end.

**ADAP-AC-04** AC power adapter for MML units; 120/240 VAC in; 4-pin XLR; 4A; 15 VDC

### Densité Card

**FXC-3201** Densité 3 RU fiber intercom extender for 2-wire (RTS & ClearCom) and 4-wire systems, with auto-nulling and 2-wire/4-wire conversion.

**FXC-3201-3DRP** Double rear connector panel. Includes XLR 2-wire and RJ45 4-wire intercom connections and available SFP slot. SFP must be purchased separately.

**Note: The FXC-3201-3DRP SPF is limited to the following selections (no other SPF can be used):**
SFP-ETH-10-S13-LC     For dual fiber solution.
SFP-ETH-10-RT-W13-LC     For one fiber solution, must match with W15 version on the opposite end.
SFP-ETH-10-RT-W15-LC     For one fiber solution, must match with W13 version on the opposite end.

\* For Densité Frame selection and its accessories, refer to the Densité datasheets