converter three & converter three hybrid

Welcome to the world of Converter Three.

Our converter Three is a compact high quality bi-directional converter. It converts SDI to fiber and fiber to SDI without changing anything to the integrity of the signal.

Think of Converter Three as a combination of two completely separate converter channels, one doing the conversion from SDI to fiber, the other doing the conversion from fiber to SDI.

There are two different types of Converter Thee. They differ in the way they handle power. Converter Three gets its power from an external power supply and does not have power output (figure 1), where Converter Three Hybrid gets its power over the hybrid cable, and does have power outpui (fibure 2).

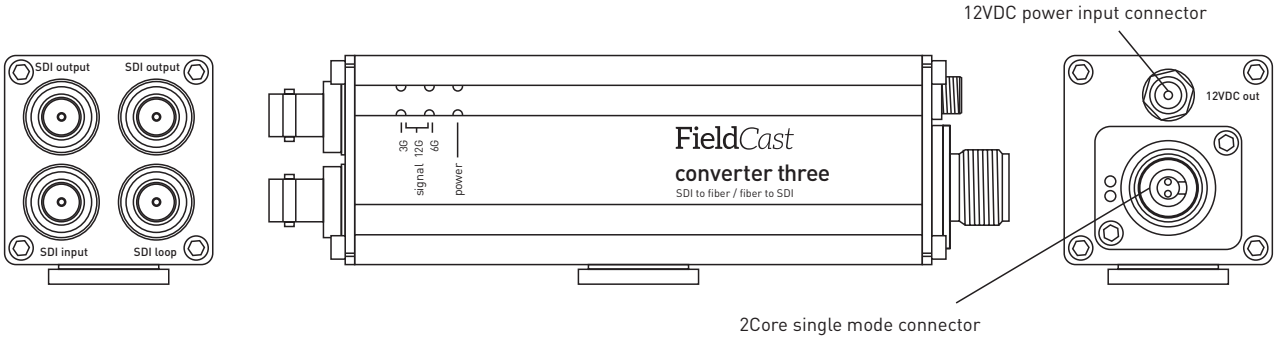


figure 1: Converter Three

As can be seen, Converter Three shows a power input connector, and underneath it a fiber optic connector with two fiber ports. Converter Three Hybrid shows a power output connector, and underneath it a hybrid fiber optic connector which also has two fiber ports, but has two extra ports for power input as well.

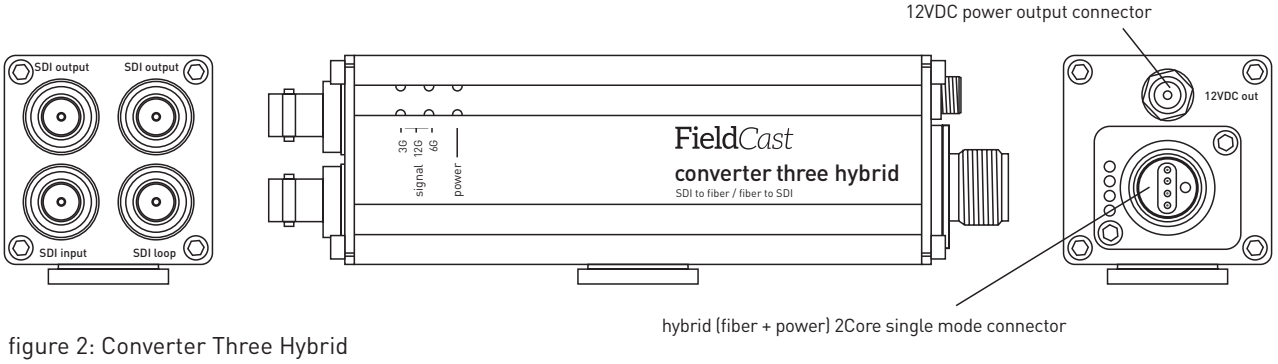


figure 2: Converter Three Hybrid

Thus, Converter Three gets its power from a local 12VDC power supply that taps into its power input connector, and it does not have power output, Converter Three Hybrid gets its power over the hybrid cable from a remote power source and it does have a 12VDC power output connector.

When comparing figure 1 and figure 2 you will see that SDI input and SDI output connections as well as the led indicators are exactly the same for both types. They only differ in the way they handle power.

It is clear now that most of the functionality, including the led indication, is exactly the same for both types. Converter Three and Converter Three Hybrid are like brother and sister.

3G, 6G and 12G versions

Converter Three (Hybrid) comes in three different versions, 3G, 6G and 12G. The 3G version can handle all SDI signals up to 3G SDI (1080p60), the 6G version can handle all SDI signals up to 6G SDI (2160p30), and the 12G version can handle all SDI signals up to 12G SDI (2160p60).

We decided to do this because many of our customers do not need more than 3G or 6G performance, and want to have the choice to invest in exactly the tools they need today. Converter Three (Hybrid) 3G can be upgraded to Converter Three (Hybrid) 6G or 12G, and Converter Three (Hybrid) 6G in it's turn can be upgraded to Converter Three (Hybrid) 12G.

Please note that, when upgrading, you cannot switch from Converter Three to Converter Three Hybrid or vice versa. Converter types cannot be upgraded, converter versions can.

the fiber optic connection

Converter Three (Hybrid) uses a 2Core chassis connector and communicates with other fiber optic gear over a crossed-over cable connection. Fiber input is set to port A of the connector, fiber output is set to port B.

figure 3: fiber optic ports on 2Core and 2Core Hybrid connectors

Port A corresponds to Channel 2 of the converter. this is the fiber to SDI conversion, ending up at the two SDI outputs. Port B corresponds to Channel 1 of the converter: this is the SDI to fiber conversion, starting at the SDI input.

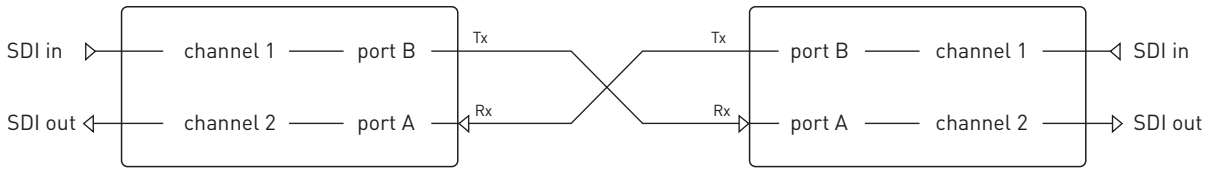


figure 4: cross-over connection between two fiber optic devices

To connect Converter Three to a second Converter Three or to other fiber optic equipment you will need our 2Core SM (single mode) Main Cable, which has crossed-over connections, so Tx (transmitter) will correctly connect to Rx (receiver) and vice versa.

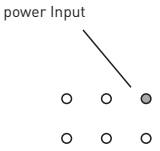
You don't have to worry about the fiber optic connection when using FieldCast product. We have taken care of it all, and any FieldCast setup will be a crossed-over one.Things can become a bit tricky when you connect third party fiber optic equipment at one side or at both sides of the chain. Bottom line: the FieldCast part of the chain will always be a crossed-over part. Port A at one side will correspond to Port B at the other side.

powering up Converter Three

Connect the 12VDC power supply to Converter Three. The onnection is made by a pretty standard cylindrical power plug, so you can't connect it the wrong way. It has DC positive on the center pin and DC negative on the outside bus.

You can screw it on to get a tight fit.and the power connector can't come loose.

Connect the power supply to mains AC (110-240VAC). The power input led of the converter will light up after a short startup routine.

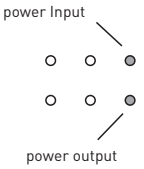


If the power input led starts to blink, this means that the voltage is too high or too low, and you should check the power supply immediately.

powering up Converter Three Hybrid

Connect a powered 2Core Hybrid Main Cable to the hybrid connector of the converter. Please note that the power source at the other end of the cable needs to bring a voltage of 14-40VDC to the converter.

When the DC power source is switched on, both the power input led and the power output led will light up after a short startup routine, telling you that the input voltage is nicely within the limits and the output voltage is 12VDC.

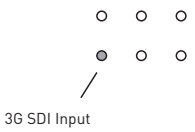


If the power input led starts to blink, this means that the input voltage is too high or too low, and you should check the power source immediately. If the power output led starts to blink, this means that output voltage is too low. This can happen when the input voltage drops below 14VDC, which causes the internal DC-DC converter to stop working properly.

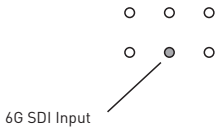
running an SDI signal

Connect an SDI cable to the SDI input (lower left connector). If there's a signal on the cable that can be recognized by the converter, one or two leds will light up to tell you so. If none of the indicator leds light up, you don't feed the converter with a valid SDI signal.

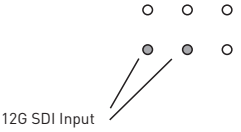
When you have a 3G version of Converter Three (Hybrid), it only will detect SDI signals up to 3G. Any valid SDI signal up to 3G will be detected, and the 3G led for the SDI input will light up.



When you have a 6G version of Converter Three (Hybrid), it will detect signals up to 6G. The unit will detect SDI signals up to 3G in exactly the same way as the 3G version. However, when it detects a 6G SDI signal, the 6G led for channel 1 (SDI input) will light up.



The 12G version of Converter Three (Hybrid) will detect signals up to 12G. The unit will detect SDI signals up to 6G in exactly the same way as the 6G version. When it detects a 12G SDI signal, both leds for channel 1 (SDI input) will light up

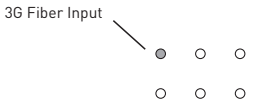


The moment Converter Three (Hybrid) detects a valid SDI signal, it will reclock and output the signal directly using the SDI loop output (lower right connector). At the same time it will convert it to a fiber optic signal and output the converted signal using port B of the 2Core connector.

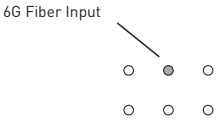
running a fiber optic signal

Connect a 2Core Main Cable to Converter Three. (if you own a Converter Three Hybrid you already connected a Hybrid Main Cable to be able to power up the unit). A soft click indicates that the connector is in the right position. After this click you can screw it on. Be sure it is screwed on completely and it has a tight fit.

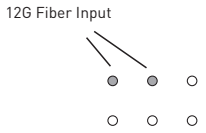
If at the other end of the cable you connect a valid source (i.e. an SDI signal converted to fiber) to port A, one or two leds will light up telling you that a signal is being detected, now coming in at the fiber input (port A of the connector). The led behavior is identical to that of SDI input leds, but now it's the upper leds, not the lower leds that are going to light up.



When you have a 3G version of Converter Three, any fiber input signal (SDI converted to fiber) up to 3G will be detected, and the 3G led for fiber input will light up. The signal will be available at both SDI outputs.



When you have a 6G version of Converter Three, the unit will detect fiber optic signals up to 3G in exactly the same way as the 3G version. However, when it detects a 6G fiber optic signal, the 6G led for fiber optic input will light up.

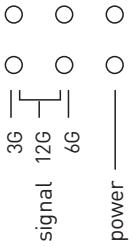


The 12G version of Converter Three will detect fiber optic signals up to 6G in exactly the same way as the 6G version. When it detects a 12G fiber optic signal, both leds for fiber input will light up.

The moment Converter Three (Hybrid) detects a valid fiber optic signal at port A, it will convert it to an SDI signal, reclock and output the converted signal using the SDI output connectors (upper row).

led indication in a nutshell

The lower middle and lower left led refer to SDI Input, the upper middle and upper left led refer to fiber input. Left led lighting up means 3G detection, middle led lighting up means 6G detection, left + middle led lighting up means 12G detection. Right lower led refers to power input, right upper led refers to power output (Converter Three Hybrid only).



converter handling

The sturdy enclosure of Converter Three is built out of aluminum.
We also provided for a stainless steel pedestal with standard 1/4-20 insert, attached to the bottom plate of the converter enclosure, to fix it to pod, rig or clamp.

FieldCast