FDX60 Series

Versions 1 and 2

Industrial RS232/RS422/RS485 Data Transceivers

Version 1

Version 2

(2026 and beyond)

Installation and Operation Manual

October 2026

comnet

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The table in Section 1 provides consolidated model-specific ratings. Always verify the exact product label before installation.

QUICK ROUTE	For a new installation, read Sections 1 through 11 in order. For an existing installation, use Section 12 for maintenance and troubleshooting.

1. Product overview

Description

The Comnet FDX60 series data transceivers provide point-to-point transmission of RS-232, RS-422, and RS-485 (2-wire or 4-wire) serial data over one or two strands of optical fiber. The transceivers are transparent to data encoding, allowing broad compatibility with serial devices. Models are available for multimode or single mode fiber and in two form factors. A built-in loopback test verifies the fiber link without external test equipment.

Model numbers

Model	Fiber Strands	Cable	Form Factor
FDX60M1A-M	1	Multimode	Miniature
FDX60M1B-M	1	Multimode	Miniature
FDX60M1A	1	Multimode	ComFit[1]
FDX60M1B	1	Multimode	ComFit[1]
FDX60S1A-M	1	Single Mode	Miniature
FDX60S1B-M	1	Single Mode	Miniature
FDX60S1A	1	Single Mode	ComFit[1]
FDX60S1B	1	Single Mode	ComFit[1]
FDX60M2-M	2	Multimode	Miniature
FDX60M2	2	Multimode	ComFit[1]
FDX60S2-M	2	Single Mode	Miniature
FDX60S2	2	Single Mode	ComFit[1]

1. The ComFit form factor denotes full-size units designed for installation in Comnet's rack-mount card cages or as a standalone device without modification.

Key specifications

- 8 to 36 VDC operating voltage range.
- 2 W power consumption.
- RS-232, RS-422, Half-Duplex or Full-Duplex RS-485 data format.
- DC to 250 kbps, NRZ data rate.
- Wide operating temperature range from −40 °C to +75 °C (−40 °F to +167 °F).
- Built-in ST receptacle(s)
- Built-in 120 Ω termination option.
- Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.
- LED status indicators confirm operating status.
- Designed to meet full compliance with the environmental requirements of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- DIN-rail, panel, wall, and rack mounting options.
- Limited Lifetime Warranty.

FIGURE 1 — FDX60 V1 AND V2 COVER · FULL SIZE · 1 FIBER

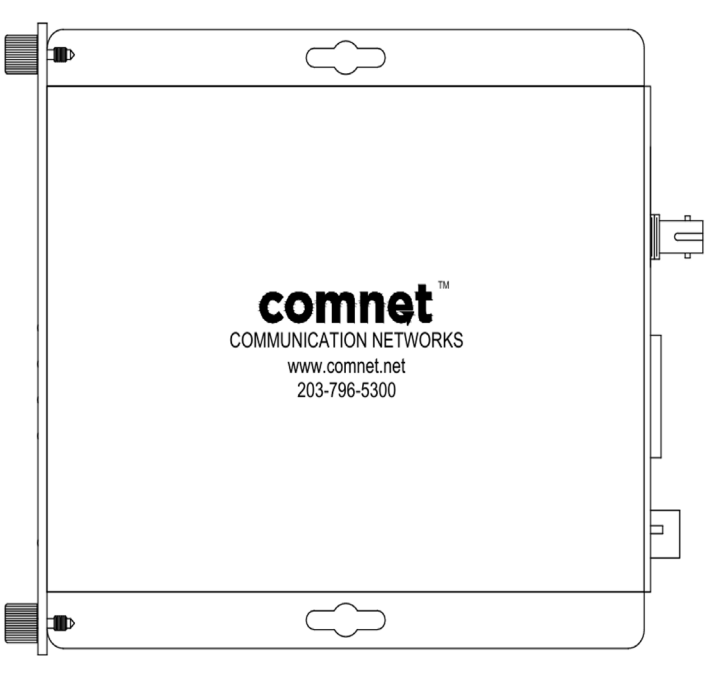


FIGURE 2 — FDX60 V1 AND V2 FRONT AND REAR PANELS · FULL SIZE · 1 FIBER

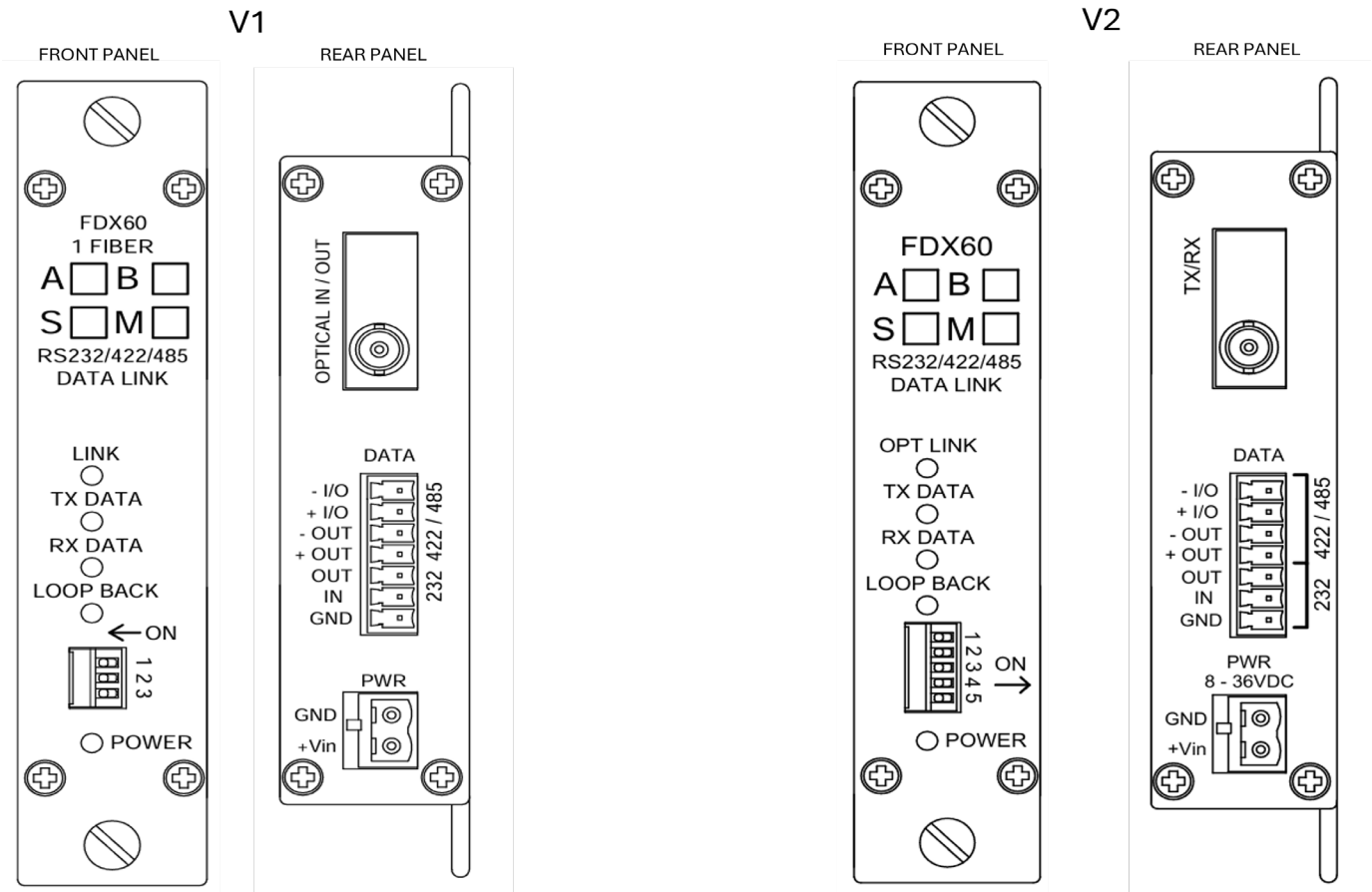


FIGURE 3 — FDX60 V1 AND V2 COVER · FULL SIZE · 2 FIBER

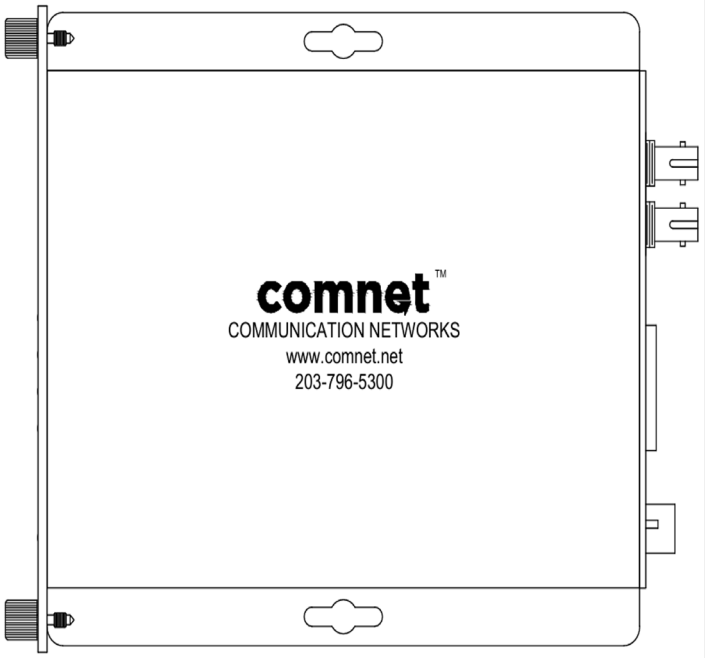


FIGURE 4 — FDX60 V1 AND V2 FRONT AND REAR PANELS · FULL SIZE · 2 FIBER

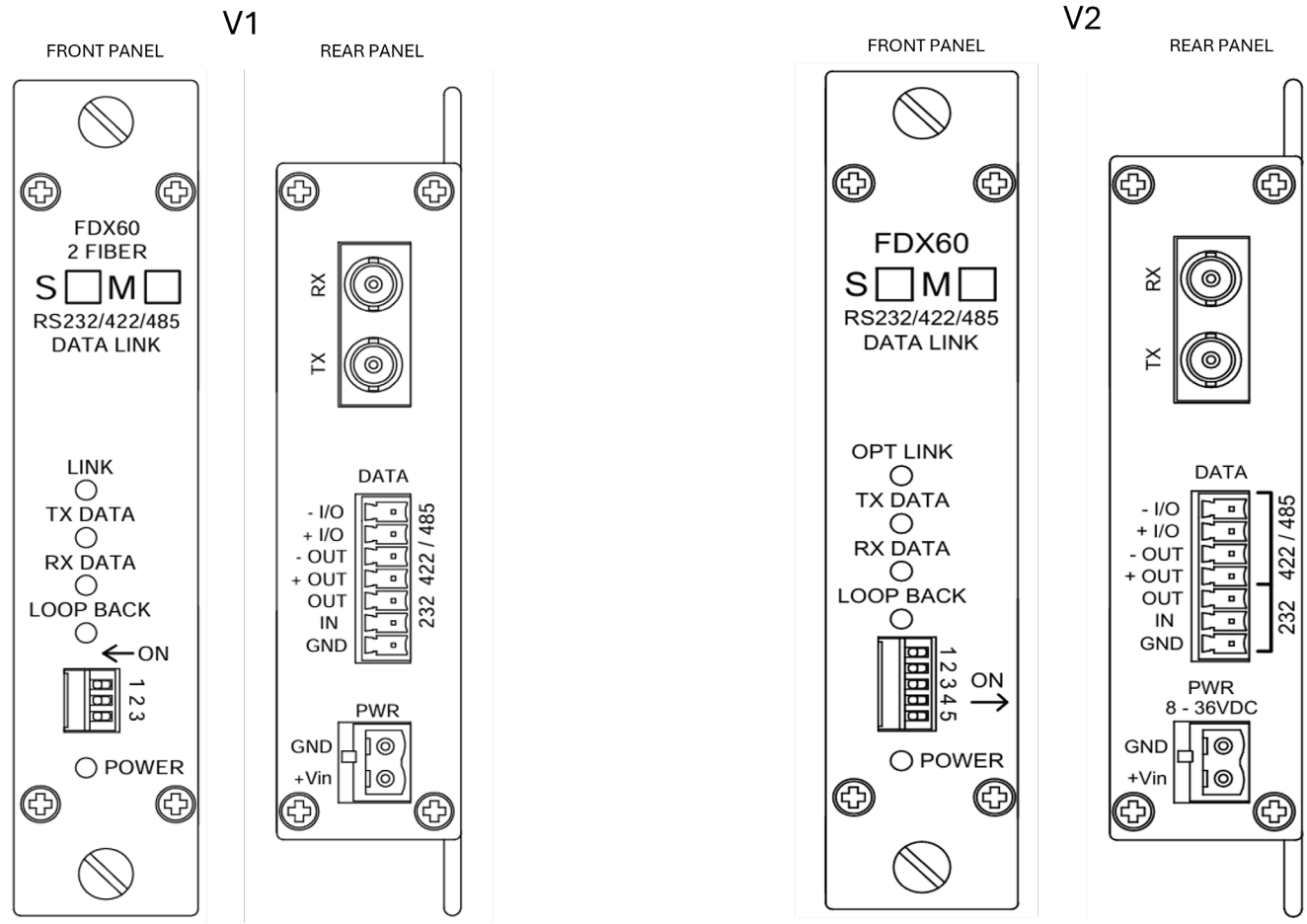


FIGURE 5 — FDX60 V1 AND V2 COVER · MINI · 1 FIBER

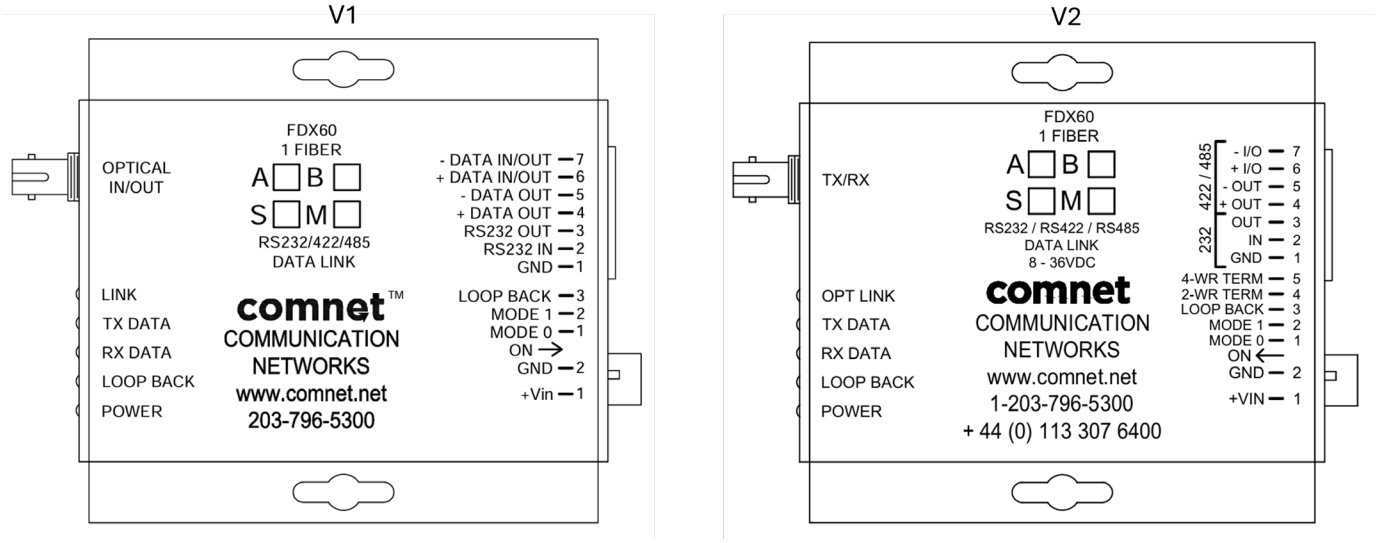


FIGURE 6 — FDX60 V1 AND V2 FRONT AND REAR PANELS · MINI · 1 FIBER

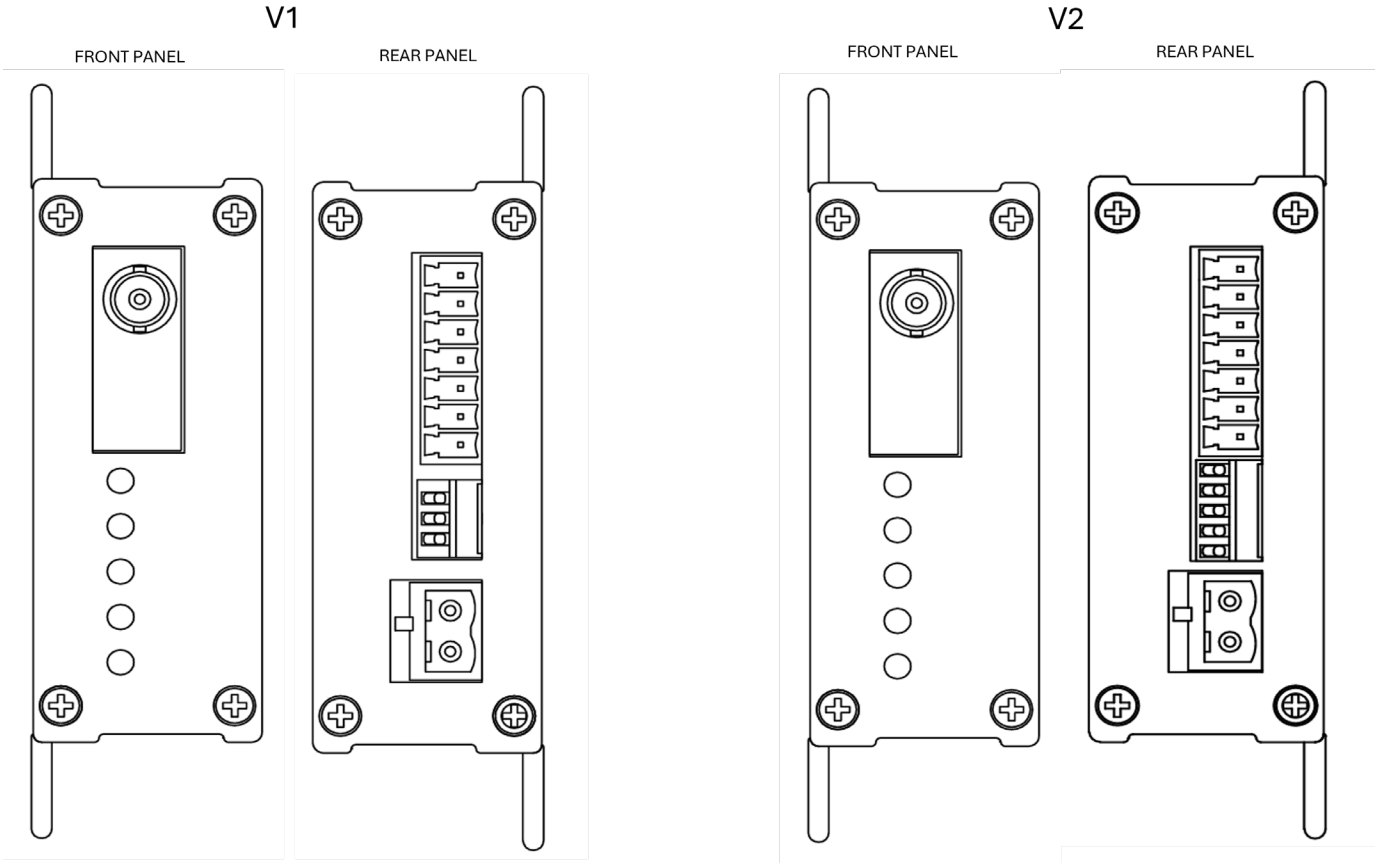


FIGURE 7 — FDX60 V1 AND V2 COVER · MINI · 2 FIBER

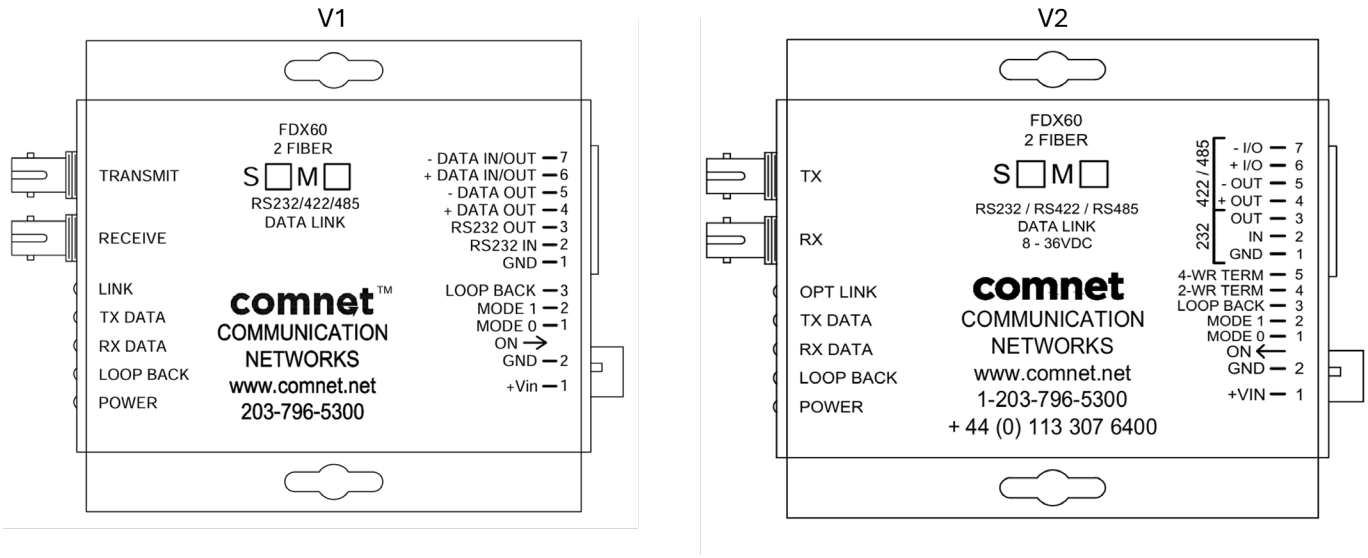
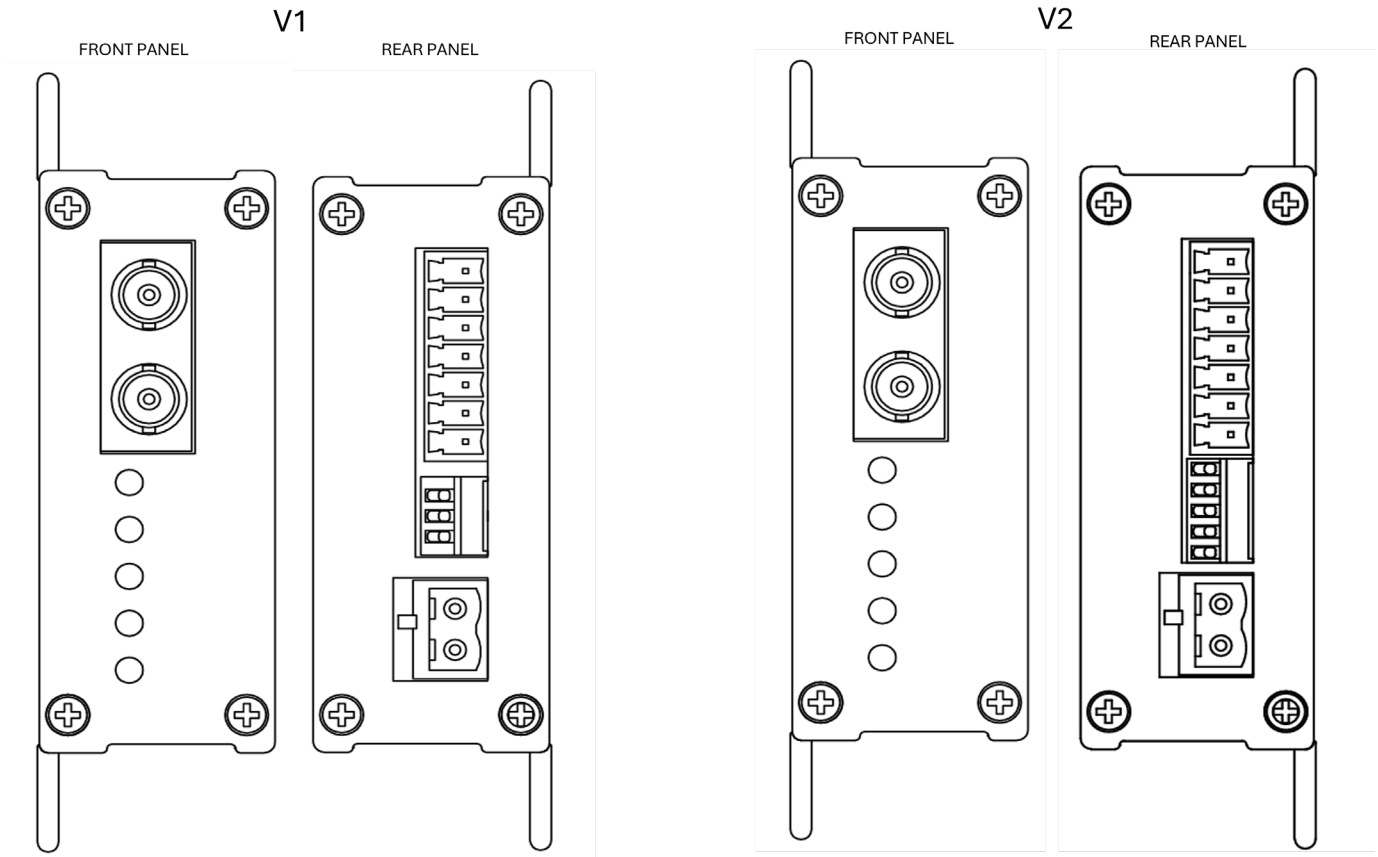


FIGURE 8 — FDX60 V1 AND V2 FRONT AND REAR PANELS · MINI · 2 FIBER



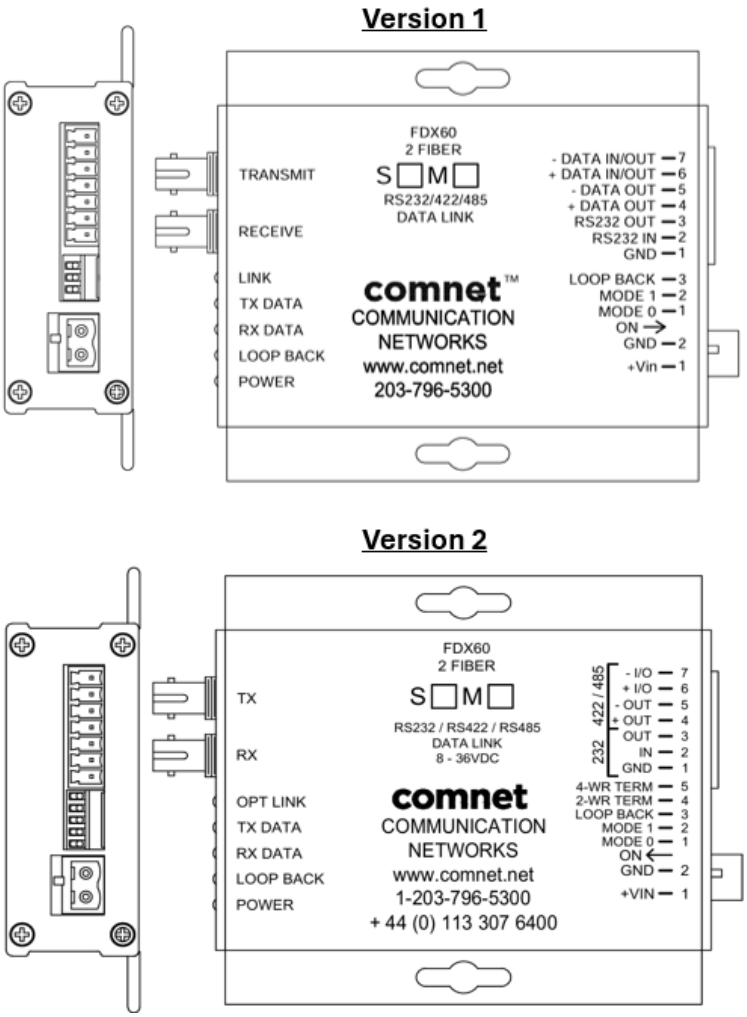
2. FDX60 Version 1 and Version 2 differences

Version 1 and Version 2 of the FDX60 series provide identical functionality and use the same wiring configuration and pin assignments. The two versions are fully interoperable and may be used interchangeably within the same system. The differences between Version 1 and Version 2 are detailed below.

1. The two versions differ in their DIP switch banks:
    - **Version 1** has three DIP switches: two select the serial protocol and one enables the loopback test mode. 120 Ω end-of-line termination requires a resistor connected in parallel across the appropriate pins.
    - **Version 2** has five DIP switches: the same protocol and loopback switches plus two dedicated switches that enable 120 Ω termination for 2-wire and 4-wire RS-485.

2. The two versions differ in their DIP switch orientation.
    - The physical direction of the ON position on Version 2 units is opposite to that on Version 1 units. Do not copy switch positions from one version to the other by eye. Set switches according to the silk-screen marking on the unit and the table for that version. For details, see Section 9.

3. The two versions can be distinguished by their silk screen markings.
    - Refer to Figure 9 for a comparison of the silk screen differences between versions.



Silk Screen Differences	
Version 1	**Version 2**
TRANSMIT	TX
RECEIVE	RX
LINK	OPT LINK
- DATA IN/OUT	-I/O
+ DATA IN/OUT	+I/O
- DATA OUT	-OUT
+ DATA OUT	+OUT
RS232 OUT	OUT
RS232 IN	IN
ON →	ON ←

Figure 9 – Version 1 vs. Version 2 silk screen differences

3. Safety information

DANGER	Hazardous DC voltage may be present at the input terminals. Disconnect and lock out all input power before installing, wiring, adjusting wiring, removing, or servicing the unit. Never work on energized conductors.

WARNING	Do not disconnect equipment in a potentially explosive atmosphere unless input power has been switched off or the area is known to be non-hazardous. Replacement or substitution of components may impair suitability for a classified location. Use the unit in a hazardous location only when the actual product markings and approvals explicitly permit such use.

Installation and service must be provided by qualified personnel

Installation and service must be performed by qualified personnel who are trained and authorized to work on the applicable electrical and communications equipment. The installer is responsible for ensuring compliance with applicable local electrical codes, enclosure requirements, wiring requirements, and installation practices.

Environmental and installation safety

- The device is designed for industrial and unconditioned environments with a temperature range of −40 °C to +75 °C (−40 °F to +167 °F).
- Install the device in an environment that is within the specified operating conditions.
- Avoid installation locations where the unit may be exposed to conditions outside its specified environmental ratings.
- Do not obstruct ventilation or install the unit in a location where excessive heat can accumulate.
- Do not install the device in a location that would expose the unit to water, condensation, excessive dust, corrosive substances, or other environmental hazards.
- The device is specified for 0–95% relative humidity, non-condensing. If condensation is expected, use the conformally coated version where applicable. The conformally coated circuit-board option extends the unit's suitability to condensation conditions.
- Store the device only within −40 °C to +85 °C (−40 °F to +185 °F).

Power and wiring precautions

- Confirm the device’s model, input source, and load current before wiring.
- Use copper conductors only. Use conductors rated for at least 75 °C (167 °F) for power connections.
- Observe DC polarity. The input terminals are marked GND and +VIN.
- Protect field wiring against abrasion, strain, accidental contact, and loosening.
- Verify there is enough physical space for adequate access to the wiring connections.

Ventilation considerations

- Do not mount directly above equipment that produces significant heat or where hot exhaust air may enter the unit.
- Do not cover the ventilation openings or pack wiring tightly against the enclosure.
- Provide sufficient clearance for wiring, air circulation, and the expected ambient temperature.

4. Pre-installation planning

Conduct a physical inspection of the packaging and the device

- Inspect the packaging and device for impact, cracks, broken terminals, loose parts, or other damage.
- Do not install a damaged or contaminated unit. Retain the packaging for inspection or return.
- Verify that the device is labeled correctly and matches the specifications of the ordered part number, such as the number of optical receptacles, the physical form factor, and the marked configuration boxes (Figure 10 and Figure 11).

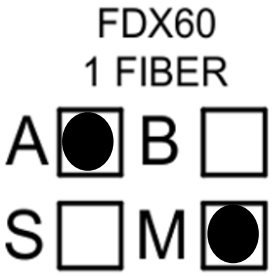


Figure 10 — FDX60 1 fiber markings

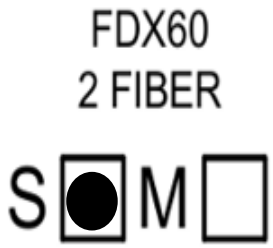


Figure 11 — FDX60 2 fiber markings

Confirm the box contents

- (one) complete FDX60 unit equipped with:
  - (one) 2-pin terminal block
  - (one) 7-pin terminal block
  - (one or two) dust cap(s) on the ST optical port(s)

Mounting hardware

- Determine the required mounting method and verify that the appropriate mounting hardware is available.
- For DIN-rail mounting, use the optional DINBKT1 or DINBKT4 adapter kit. The DIN rail itself is not included. Comnet DIN-rail adapter kits fit any standard 35 mm DIN rail.
- For rack mounting, the ComFit form factor supports installation in an optional C1, C2, or C3 card cage.

Power source

- For stand-alone, wall, or DIN-rail installations, provide an external power supply that outputs 8 to 36 VDC and can supply at least 2 W to the unit. Verify the supply operates within its rated current and power capacity, including any temperature derating.
- Use Comnet industrial-grade power supplies for harsh environments. Order the PS-CABLEPK-1 cable pack for the DIN-rail power supply
- For rack-mount installations, the card cage supplies operating power to the unit; no external power supply is required.

Fiber optic cable

- Confirm that the installed optical fiber is compatible with the unit:
  - The number of available fiber strands corresponds to the model: one or two strands.
  - The fiber type matches the model: multimode (50/125 µm or 62.5/125 µm) or single mode (9/125 µm).
  - The fiber is terminated with ST connectors or utilizes ST adapters.
  - The length of the optical fiber does not exceed the unit's maximum transmission distance: multimode [4 km (2.5 mi)] or single mode [69 km (43 mi)].
- Inspect and clean the fiber connectors and the unit's ST receptacle as necessary.
- Use a visual fault locator to verify continuity and identify the correct strand at the far end as needed.
- Optionally, use an OTDR to verify fiber quality and link loss.

Serial data wiring

- Verify that the appropriate wiring is available for the serial-data interface.

Standard	Maximum # of Conductors	Recommended Gauge (AWG)	Typical Maximum Distance (at 9600 baud)
RS-232	3	24	50 ft (15 m)
RS-422	4	24	4,000 ft (1,200 m)
RS-485, half-duplex	2	24	4,000 ft (1,200 m)
RS-485, full-duplex	4	24	4,000 ft (1,200 m)

List of equipment that may be required

☐ Flathead screwdriver
☐ Phillips screwdriver
☐ C1, C2, or C3 card cage (for rack-mount installations)
☐ DINBKT1 or DINBKT4 adapter kit (for DIN-rail installations)
☐ Industrial-grade, DIN-rail power supply (for standalone installations)
☐ PS-CABLEPK-1 cable pack for DIN-rail power supply (for standalone installations)
☐ Multimeter
☐ Wire for serial data connections
☐ Fiber optic cabling with ST connectors or an ST adapter
☐ Fiber optic cleaning kit
☐ Fiber optic termination kit
☐ Visual fault locator
☐ OTDR (Optical Time-Domain Reflectometer)

5. Mechanical installation

ComFit FDX60 dimensions

The CAD drawing in Figure 12 outlines the dimensional specifications of the equipment housing of a ComFit FDX60 unit, presented in dual units (inches over millimeters in brackets).

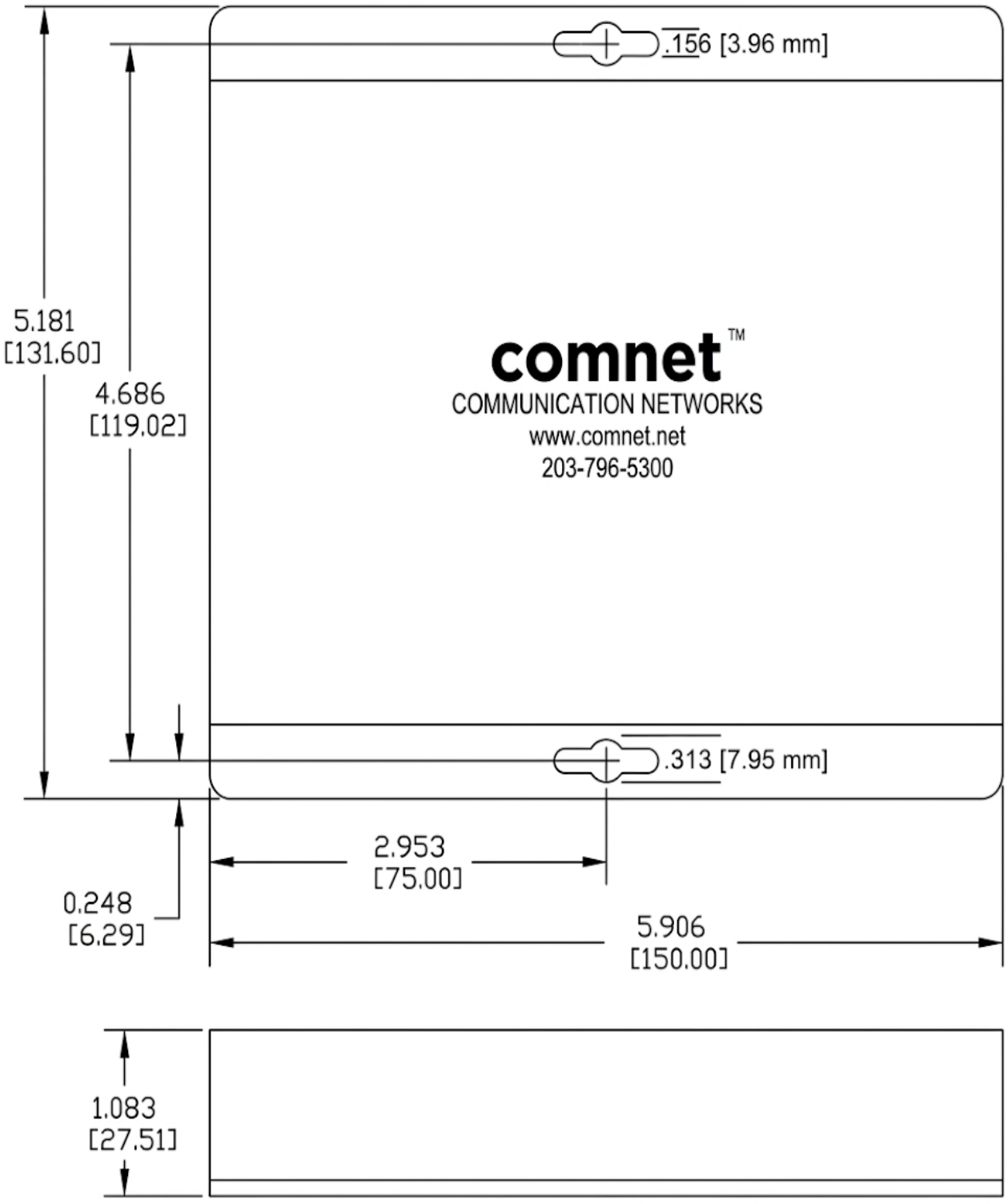


Figure 12 – ComFit FDX60 dimensions

Miniature FDX60 dimensions

The CAD drawing in Figure 13 outlines the dimensional specifications of the equipment housing of a miniature FDX60 unit, presented in dual units (inches over millimeters in brackets).

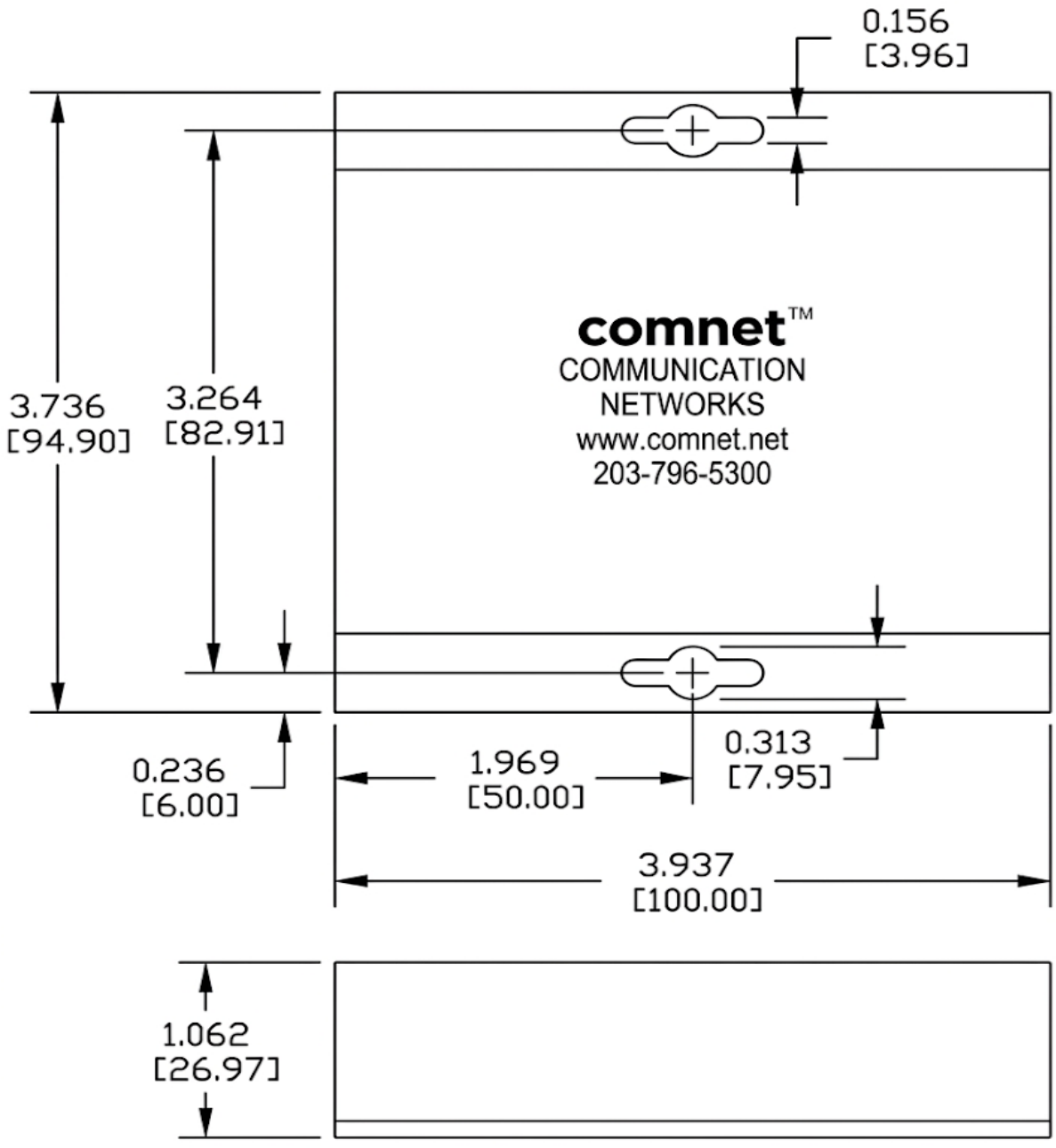


Figure 13 – Miniature FDX60 dimensions

Mounting a ComFit or miniature FDX60 to a wall or surface

1. Select a mounting location that is clean, dry, within the environmental ratings, and provides adequate clearance around the unit for wiring and airflow.
2. Hold the unit against the mounting surface and mark the mounting hole locations.
3. Drill the required holes and install appropriate wall anchors if required (not supplied).
4. Secure the device to the wall using suitable mounting screws through the mounting holes (see Figure 14).

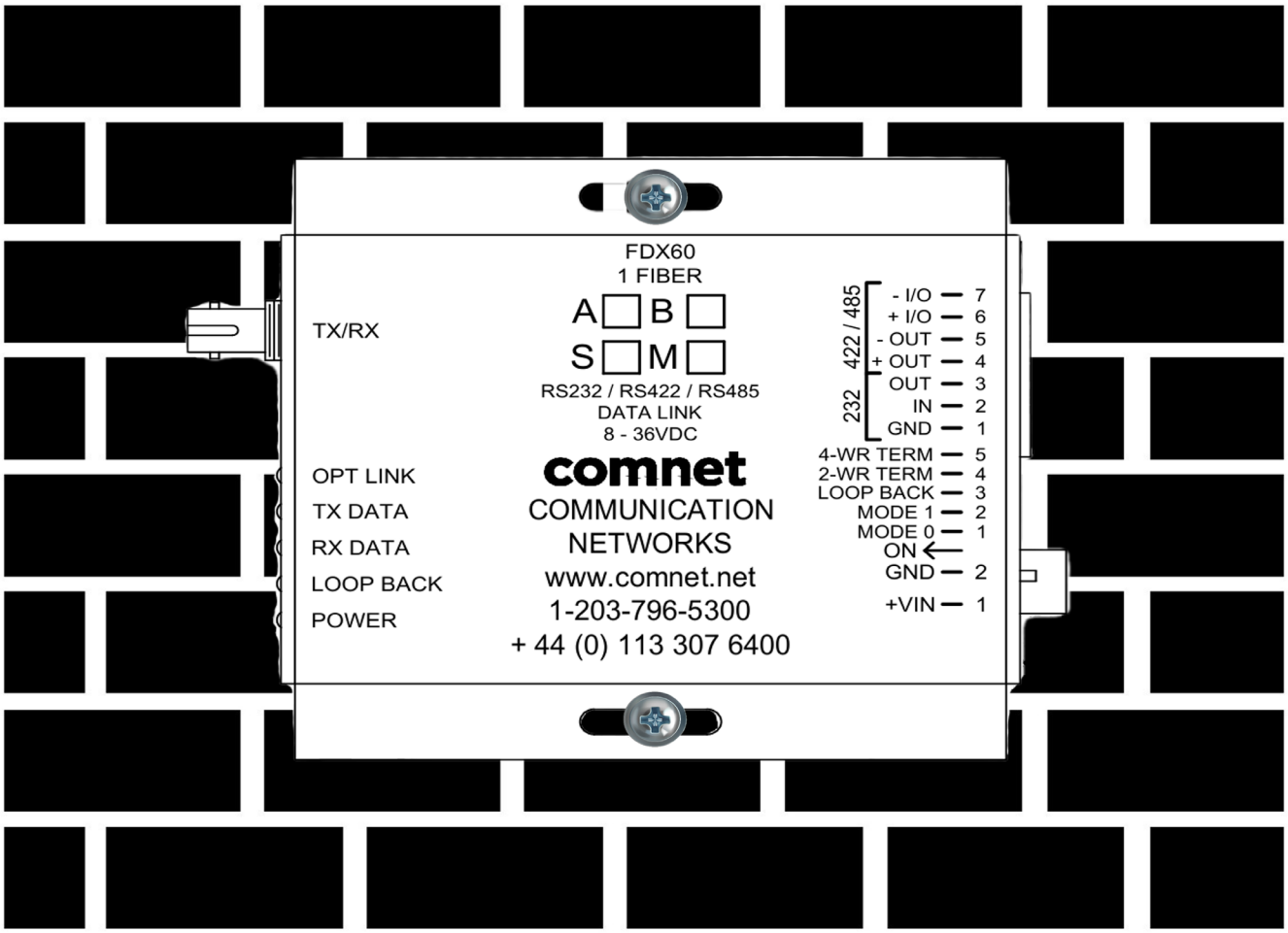


Figure 14 – FDX60 mounted to a wall

5. Verify the device is securely mounted before connecting power.
6. Proceed to Section 6; Powering the FDX60.

Mounting a ComFit or miniature FDX60 to DIN rail using a DINBKT1 adapter kit

1. Remove the screws from the DINBKT1 plate.

2. Locate the desired mounting holes on the DINBKT1 plate (e.g., holes B and R shown in Figure 15).

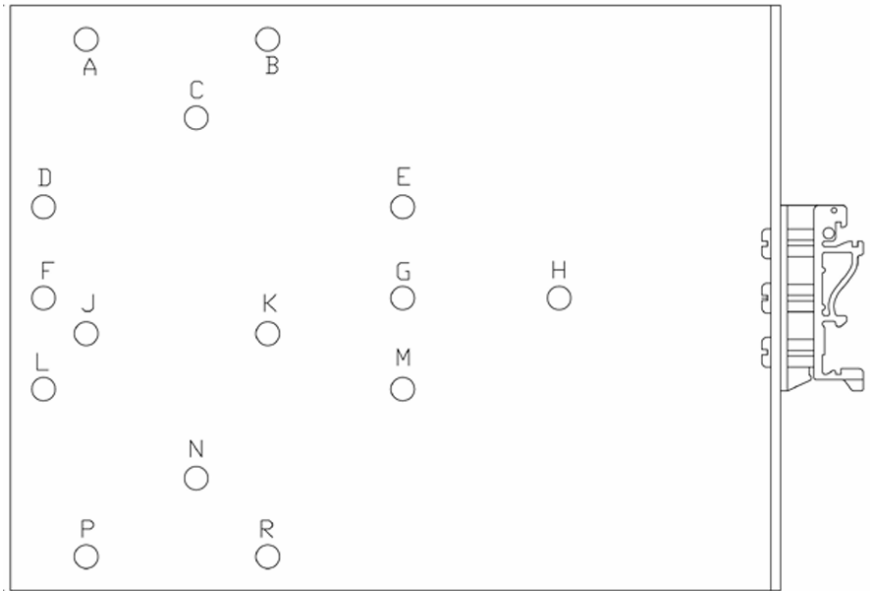


Figure 15 – DINBKT1 adapter kit

3. Mount the unit to the selected holes using the removed screws, as shown in Figure 16.

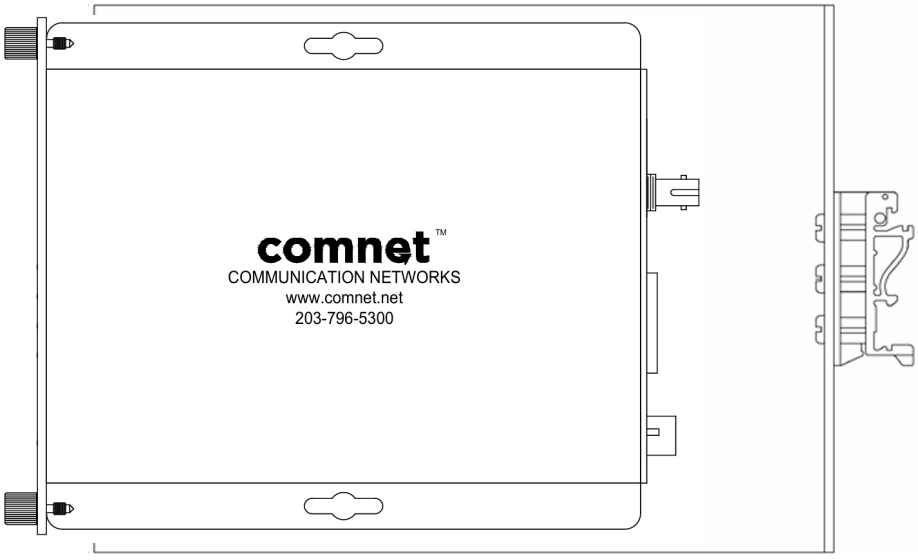


Figure 16 – FDX60 mounted on a DINBKT1 adapter kit

4. Clip the DINBKT1 adapter kit onto the DIN rail.

5. Verify the unit is securely seated on the rail before connecting power.

6. Proceed to Section 6; Powering the FDX60.

Mounting a ComFit or miniature FDX60 to DIN rail using a DINBKT4 adapter kit

1. Remove the screws from the DINBKT4 plate, as shown in Figure 17.

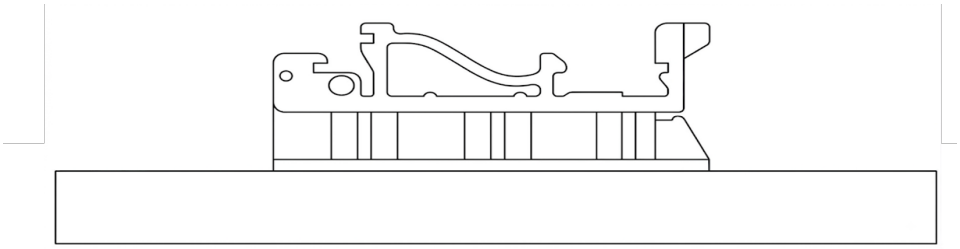


Figure 17 – DINBKT4 adapter kit

2. Mount the unit to the empty holes on the DINBKT4 using the removed screws, as shown in Figure 18.

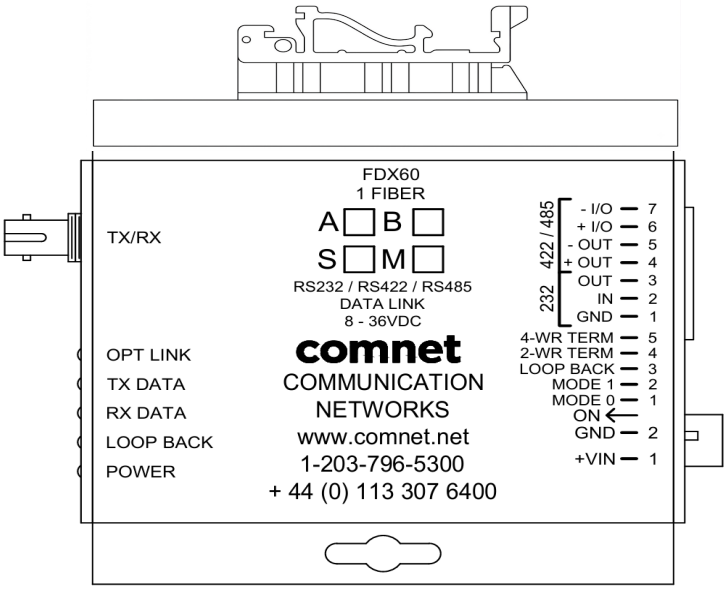


Figure 18 – FDX60 mounted on a DINBKT4 adapter kit

3. Clip the DINBKT4 adapter kit onto the DIN rail.

4. Verify the unit is securely seated on the rail before connecting power.

5. Proceed to Section 6; Powering the FDX60.

Removing an FDX60 from DIN rail

1. Disconnect and secure the power conductors, serial data wiring, and fiber optic cable(s).

2. Pull the lower DIN-rail release clip away from the rail.

3. Tilt the bottom of the unit outward and lift the upper hook off the rail, as shown in Figure 19.

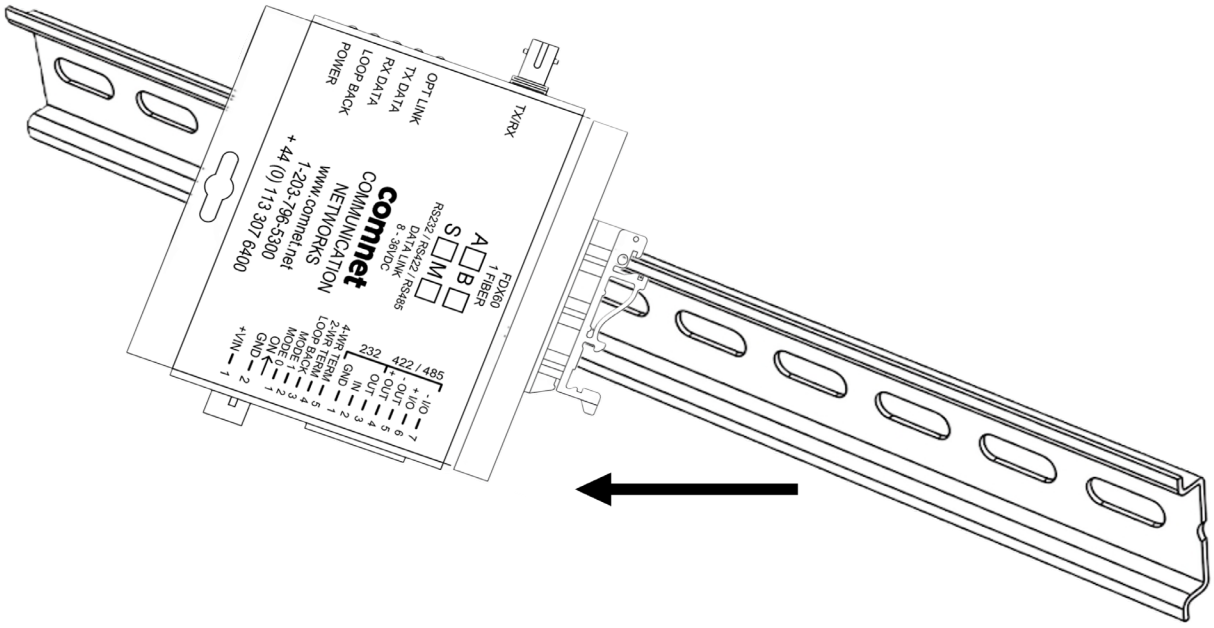


Figure 19 – Removing an FDX60 from DIN rail

Mounting a ComFit FDX60 to an equipment rack using a C1, C2, or C3 card cage

1. Select the C1, C2, or C3 card cage for installation; the C1 occupies 4 rack units (RU) and supports one integrated power supply, the C2 occupies 4 RU and supports two integrated power supplies, and the C3 occupies 1 RU and features redundant power supply connectors on the rear panel.

2. Install the card cage in a 19-inch equipment rack using the hardware supplied with the cage.

3. Unplug the removable 2-pin power terminal plug from the rear of the FDX60 device.

4. Align the FDX60 with an open slot and slide it in until the power header on the rear of the unit seats fully in the connector on the card cage backplane. See Figures 20 – 22.

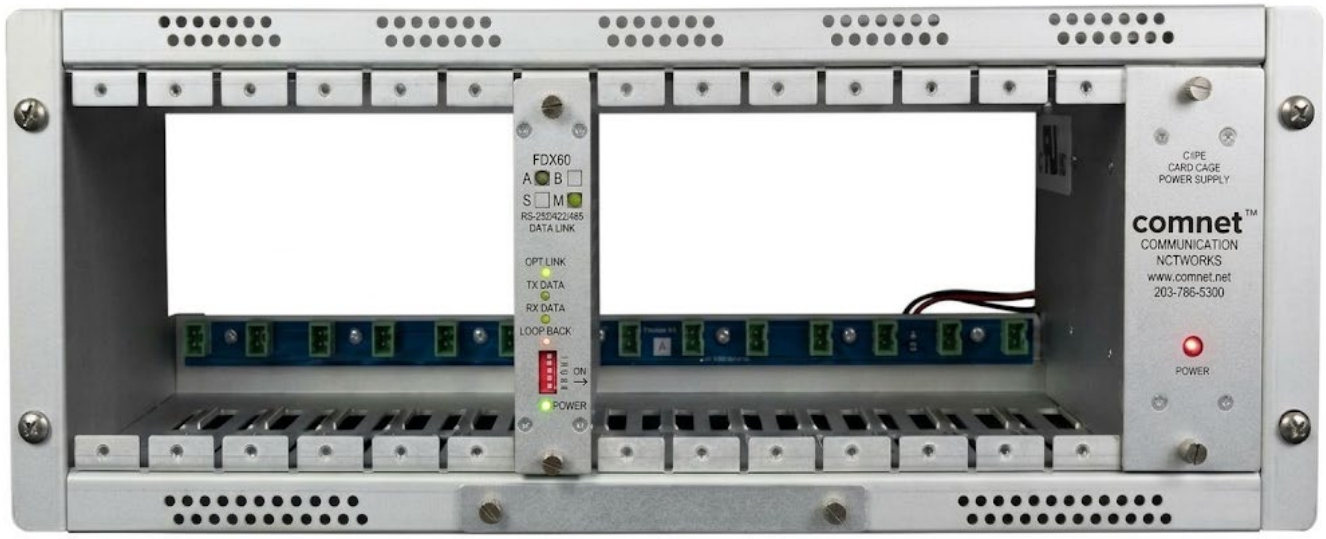


Figure 20 – FDX60 mounted in a C1 card cage

Figure 21 – FDX60 mounted in a C2 card cage

Figure 22 – FDX60 mounted in a C3 card cage

5. Verify that the POWER LED on the FDX60 is green. If it is not, confirm that the card cage is powered and that the unit is fully seated.

6. For card cage installations, skip Section 6 and proceed to Section 7.

6. Powering the FDX60

DANGER	Hazardous AC or DC voltage may be present at the input or output terminals of the devices. Disconnect and lock out all input power before installing, wiring, adjusting wiring, removing, or servicing the unit. Never work on energized conductors.

Skip this section if the FDX60 is installed in a card cage; the card cage supplies power. For all other installations, follow the procedure below to wire an external power supply to the FDX60 as shown in Figure 23.

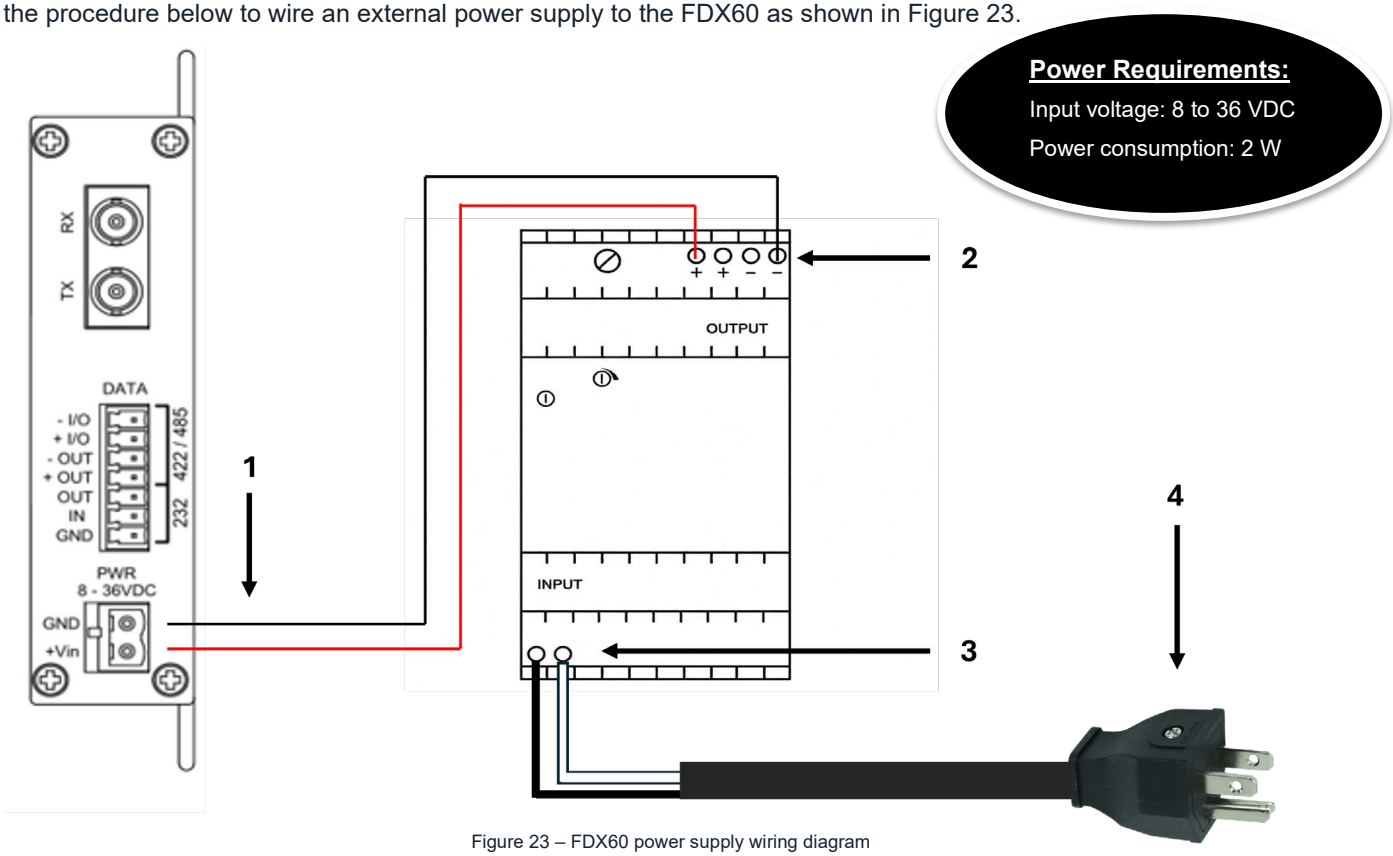


Figure 23 – FDX60 power supply wiring diagram

Step	Action
1	On the FDX60, connect the positive conductor to the terminal labeled +Vin. Connect the negative (return) conductor to the terminal labeled GND.
2	On the power supply, connect the positive conductor to the positive terminal. Connect the negative conductor to the negative terminal.
3	Connect the AC conductors (line, neutral, and ground) to the input terminals of the power supply. Wire colors vary by cord type and region: **North American cords:** Black = Line (L), White = Neutral (N), Green/Yellow = Ground (⏚). **International (IEC) cords:** Brown = Line (L), Blue = Neutral (N), Green/Yellow = Ground (⏚).
4	Plug the three-pronged power cord connector into an AC outlet. If the POWER LED is off after this step, see Section 12, Troubleshooting.

7. Optical fiber installation

CAUTION	Do not look directly into the optical connector of a device or into the end of a fiber. Always assume that an optical port or connected fiber may be active and avoid direct exposure to the optical output. Invisible laser light may be present and can cause eye injury.

For single-strand fiber models, as shown in Figure 24, one A-side unit and one B-side unit are required. The units may be installed at either end of the fiber link, and either unit form factor may be used interchangeably.

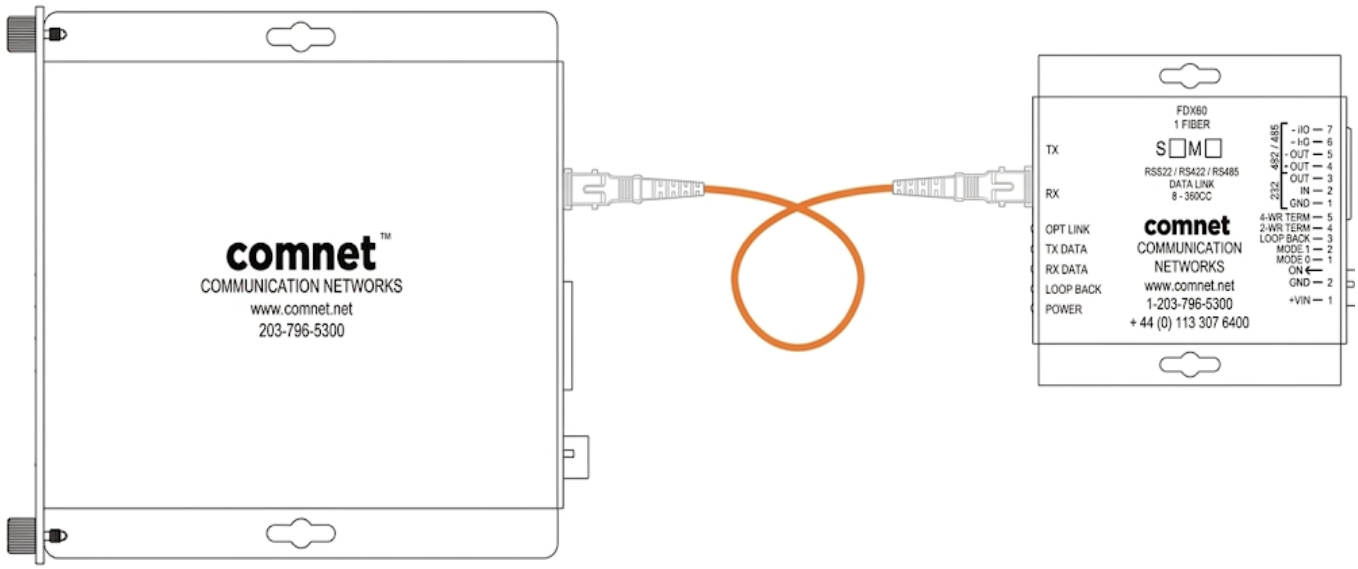


Figure 24 – FDX60 1 fiber optical fiber installation

For two-strand fiber connections, as shown in Figure 25, connect the TX port of one unit to the RX port of the other unit, and the RX port of the first unit to the TX port of the other unit.

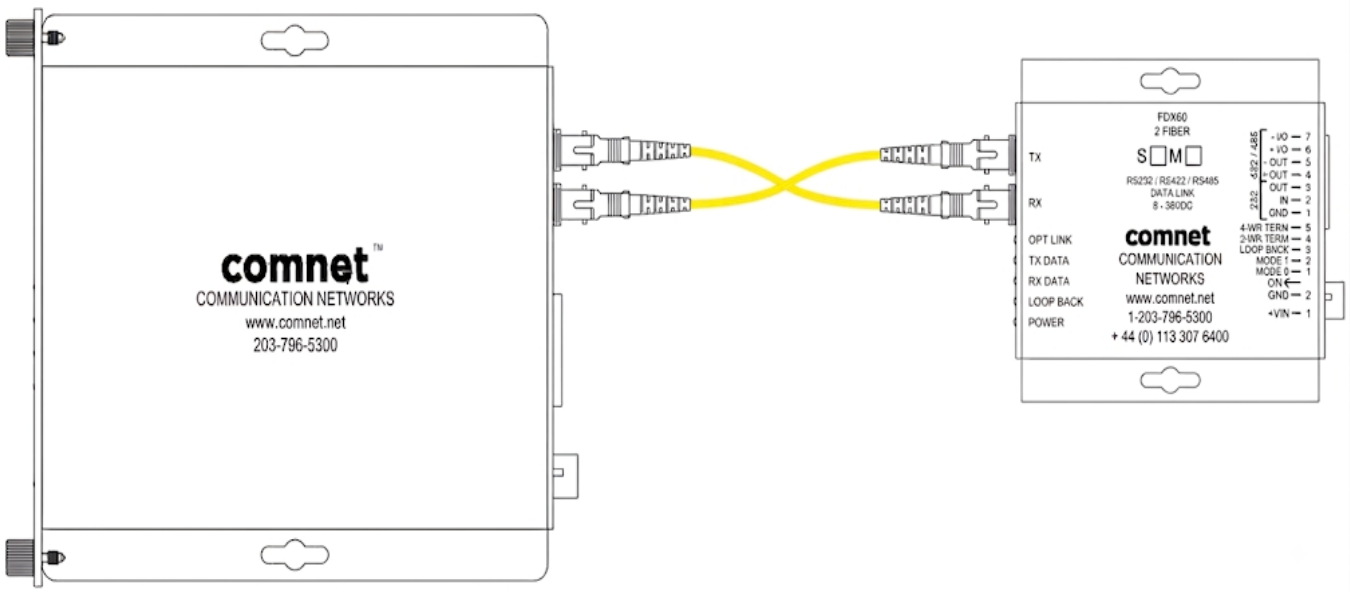


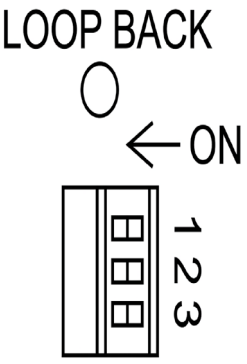
Figure 25 – FDX60 2 fiber optical fiber installation

Using the loop back mode to test the fiber

DIP switch #3 enables optical loopback testing, as shown in Figure 26, allowing verification that the local and remote units can successfully transmit and receive electrical signals over the optical fiber link.

The table below describes the possible DIP switch states for the local and remote units, the resulting optical link status, the loop-back LED behavior on both units, and the corresponding system condition.

Version 1



Version 2

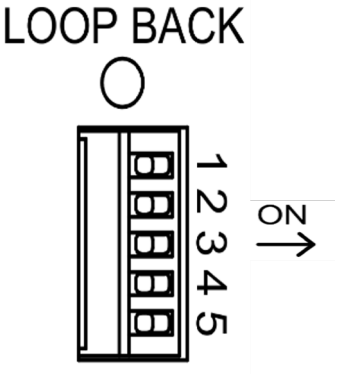


Figure 26 – FDX60 Version 1 and Version 2 loop back DIP switch

Loop Back DIP Switch (Local unit)	LOOP Back DIP Switch (Remote unit)	Loop Back LED (Both Units)	Description
OFF	OFF	OFF	Loop-back mode is disabled on both units.
ON	OFF / ON	Solid Red	Loop-back mode is enabled. The loop back test is unsuccessful.
ON	ON	Solid Green	Loop-back mode is enabled. The loop back test is successful.

8. FDX60 Version 1 and Version 2 serial data wiring

The FDX60 accepts serial data on a 7-pin pluggable terminal block on the front panel. Wiring and pin assignments are identical for Version 1 and Version 2. Both units of a link must be wired and configured for the same protocol as shown in Figure 27.

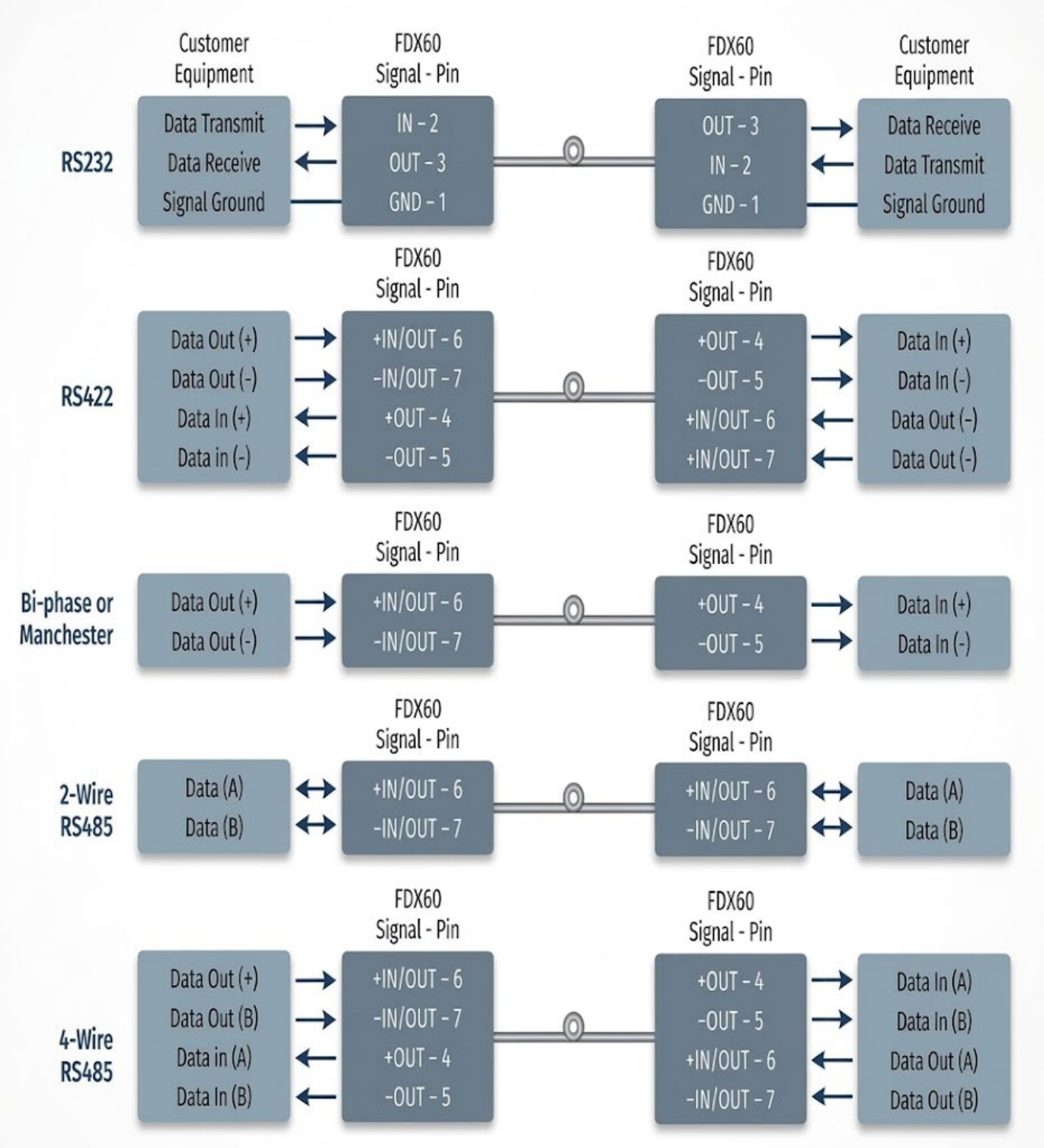


Figure 27 – FDX60 Version 1 and Version 2 serial data wiring diagram

9. FDX60 Version 1 and Version 2 DIP switch settings

Configure the FDX60 DIP switches according to the desired serial protocol and corresponding wiring configuration, as shown in Figure 28 and Figure 29. After making any DIP switch changes, power cycle the unit to apply the new settings.

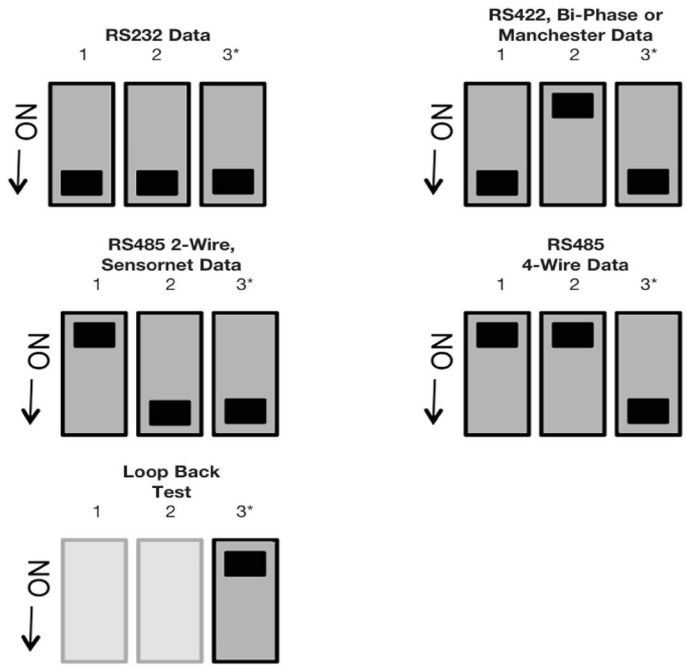


Figure 28 – FDX60 Version 1 DIP switch settings

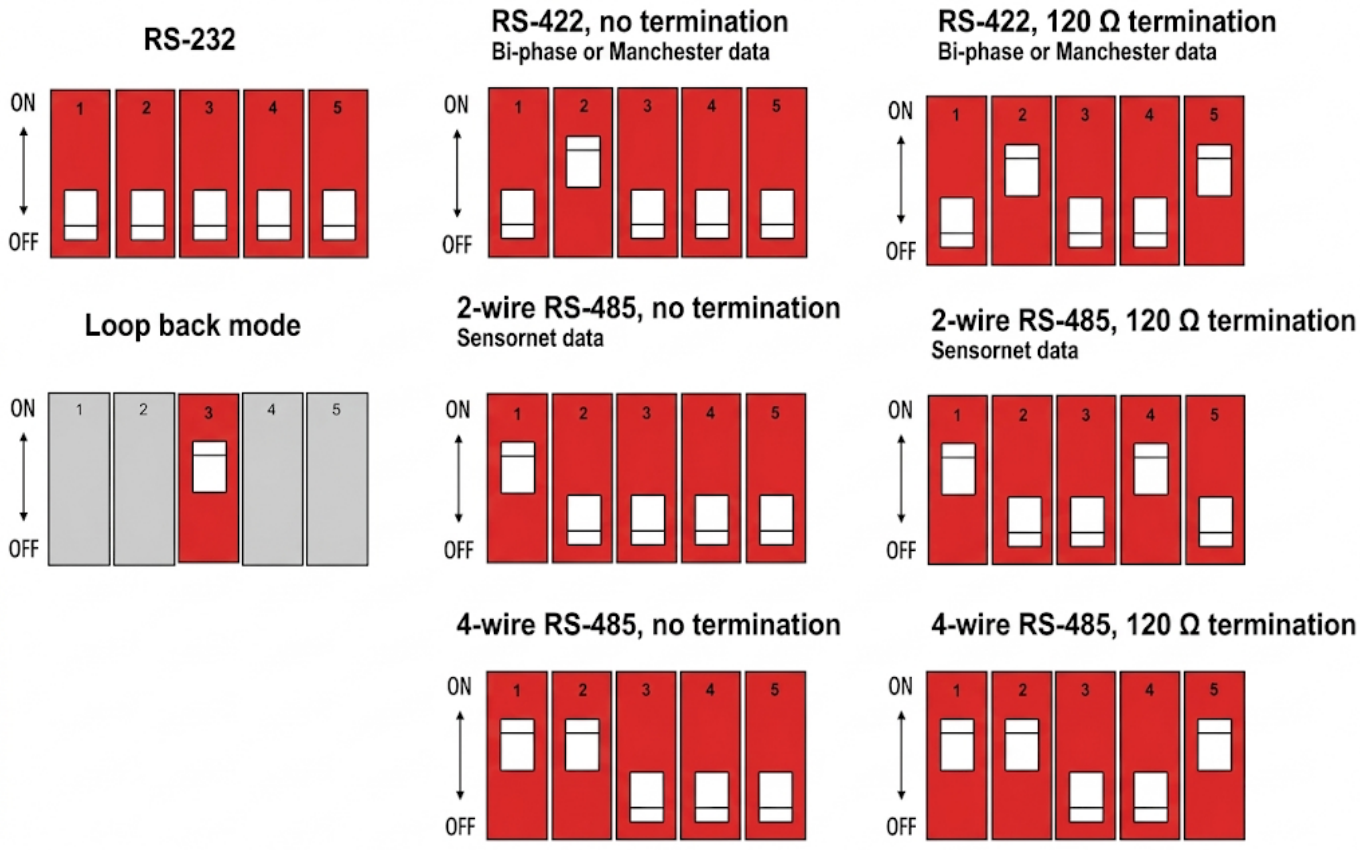


Figure 29 – FDX60 Version 2 DIP switch settings

10. Status LED indicators

The table below goes into the different status LED indicators and what they mean. This is useful for determining what issues may be affecting the units or if they are in good condition.

LED	Color	Status	Description
POWER	OFF	N/A	The unit is powered off.
	GREEN	Solid	The unit is powered on.
OPT LINK	OFF	N/A	The unit does not have an optical link.
	GREEN	Solid	The unit has an optical link.
DATA (TX/RX)	OFF	N/A	The unit is powered off.
	RED	Solid	There is no activity on the copper connection.
	GREEN	Solid	There is activity on the copper connection.
LOOP BACK	OFF	N/A	Loop back mode is off.
	RED	Solid	The loop back test is unsuccessful.
	GREEN	Solid	The loop back test is successful.

11. Normal operation

Under normal operation, verify that the status LEDs indicate the correct operating state. Both units should display a green Power LED, confirming that DC power is present, and a green Optical Link LED, confirming an active fiber connection. Additionally, the TX and RX LEDs should be green when serial data is actively being transmitted over the fiber link. If any LED deviates from these expected states, consult the troubleshooting section of this manual.

	POWER	OPT LINK	DATA (TX/RX)	LOOP BACK
Normal operation	GREEN	GREEN	GREEN	OFF
Meaning	Confirms DC power is present and stable.	Confirms active fiber connection established between units.	Serial data is actively transmitting/receiving across link.	Loop back mode is off

12. Maintenance and troubleshooting

Preventive maintenance

Use the schedule below to catch problems early. Check more often at dusty, hot, damp, or high-vibration sites.

When	What to do
At installation	Make a record for each device and keep it on site. Include: • Complete part numbers of both units • For 1-fiber links, note which end has the A unit and which has the B unit • Serial protocol, DIP switch settings, and where 120 Ω termination is installed • Fiber type, strand ID(s), fiber length, and measured link loss (if tested) • Supply voltage measured at +VIN and GND (must be 8 to 36 VDC) • What serial device is connected at each end
Every 6 months: LED check	Confirm the following LED status: • POWER LED is green on both units • OPT LINK LED is green on both units • TX/RX LEDs are green while data is being sent. Red means no data activity on the copper side • LOOP BACK LED is off on both units If any of the LEDs above do not match, see the Troubleshooting section below.
Every 6 months: Visual check	Confirm the following: • Housing is not cracked, discolored, or showing signs of heat • Unit is firmly mounted: DIN clip fully latched, or card fully seated in the card cage • Ventilation openings are clear and not blocked by wiring or other equipment • No dust buildup, moisture, condensation, or corrosion on the unit or terminals Fiber cable is not kinked, crushed, pulled tight, or bent sharply.
Every 12 months: Wiring check	Confirm the following: • Turn off and lock out power first • Make sure terminal screws are snug and both terminal plugs (power and 7-pin data) are pushed fully into the unit • Look for loose strands, damaged insulation, or heat-darkened wires • Restore power and confirm 8 to 36 VDC at +VIN and GND
Every 12 months: Fiber check	Confirm the following: • Make sure all ST connectors are fully locked (twisted clockwise) • If you disconnect a fiber, clean and inspect both ends before reconnecting • If you have a power meter or OTDR, measure link loss and compare it with your installation record

When	What to do
Every 12 months: Function test	Tell the site staff or control center first. The test interrupts serial data on the link. • Confirm the serial devices at both ends are communicating • To test the fiber, run the loopback test: set the loopback switch ON at both units and power cycle them. The LOOP BACK LED should turn green • Set both loopback switches back to OFF, power cycle both units, and confirm data is passing
Cleaning (as needed)	• Turn off and lock out power first • Remove loose dust from the housing and vents with a soft brush or dry, oil-free, low-pressure air • Do not use liquids, solvents, conductive tools, or high-pressure air. Do not open the housing
After a fault, repair, or unit replacement	• Contact technical support for assistance, see Section 15 • Find and fix the cause before returning the link to service • As needed, return the unit for an RMA • Repeat the function test and update the site record

Troubleshooting common symptoms

Work through problems in this order: power first, then the fiber link, then the serial wiring and DIP switches. Check the LEDs on both units before you change anything. Turn off power before you touch any wiring.

Symptom	Likely cause	What to do
POWER LED is off	Power supply is off, unplugged, or faulty. Loose or unplugged power terminal. Wires reversed (+ and −). Voltage is below 8 VDC or above 36 VDC. Card cage: unit not fully seated, or the card cage has no power.	Confirm the power supply is plugged in and turned on. Measure the voltage at the unit's +VIN and GND terminals. It must be 8 to 36 VDC. Check that + goes to +VIN and − goes to GND, and that the plug is fully seated. Card cage: check that other cards in the cage are lit. Reseat the unit or try another slot. If voltage is correct and the LED is still off, replace the unit.
POWER LED flickers, or the unit keeps resetting	Loose power connection. Power supply is too small or failing. Long or thin DC wires are dropping the voltage.	Turn off power, then tighten and reseat the power terminal. Measure the voltage at the unit while it is running. It must stay between 8 and 36 VDC. Use a supply rated for at least 2 W per unit, or shorten or upsize the DC wires.
OPT LINK LED is off	Unit at the other end has no power. Fiber unplugged or not locked at one end. 1-fiber link: two A units or two B units are paired. 2-fiber link: TX is connected to TX instead of RX. Dirty or damaged connector, or wrong strand. Fiber is broken, bent too tightly, or too long.	Check that the POWER LED is green on both units. Check that all ST connectors are locked. 1-fiber link: confirm one part number ends in A and the other in B. 2-fiber link: make sure TX on each unit goes to RX on the other. Swap the two fibers at one end to test. Clean and inspect the connectors at both ends. Use a visual fault locator to confirm the strand. Link must be under 4 km (multimode) or 69 km (single mode).
OPT LINK LED goes on and off	Dirty or loose fiber connector. Link loss is close to the limit. Damaged fiber, or a sharp bend. Power at either unit is cutting in and out.	Clean, inspect, and reseat the connectors at both ends. Look for kinks, crushed cable, or tight bends along the route. Measure the link loss and compare it with your installation record. Check the power at both units as described above.
LOOP BACK LED is red during a loopback test	Loopback switch is not ON at the other unit, or that unit was not power cycled. Fiber fault between the units.	Set the loopback switch ON at both units, then power cycle both. If the LED is still red, treat it as a fiber problem. Follow the OPT LINK LED steps above.

Symptom	Likely cause	What to do
LOOP BACK LED is lit during normal operation	Loopback switch was left ON after testing.	Set the loopback switch to OFF on both units, then power cycle both. Confirm the LOOP BACK LED is off and data is passing.
TX/RX LEDs stay red (OPT LINK is green)	Serial device is off, idle, or not sending. Data wires on the wrong pins, or loose. DIP switches set for the wrong protocol. Unit not power cycled after a DIP switch change.	Confirm the serial device is on and sending data. Red is normal while the line is idle. Check the wiring against Figure 27 for the selected protocol and make sure every wire is tight. Set the protocol DIP switches on both units to match the wiring. Both units must use the same protocol. Power cycle both units after any DIP switch change.
TX/RX LEDs are green, but the devices do not communicate or data has errors	Protocol set differently at each end. RS-232: TX and RX swapped, or no ground wire. RS-422/485: + and − (A and B) reversed. Wrong or missing 120 Ω termination. Copper cable too long, or data rate above 250 kbps, NRZ.	Confirm both units are set for the same protocol. RS-232: check TX, RX, and ground are wired to the correct pins. RS-422/485: swap the + and − wires on the affected pair and retest. Install 120 Ω termination at the two ends of the RS-422/485 line only. Remove it from any device in the middle. Shorten the length of the copper cable.
Data passes in one direction only	One wire pair is miswired or loose. Half-duplex (2-wire) and full-duplex (4-wire) RS-485 are mixed.	Check which TX/RX LED stays red, then trace and tighten that pair. Make sure both units and both serial devices use the same 2-wire or 4-wire mode.
DIP switches look correct, but the unit acts as if set wrong	Version 1 and Version 2 switches are ON in opposite directions. Version 1 has no termination switches; it needs an external 120 Ω resistor.	Read the ON marking on the unit's silkscreen and use the table for that version (Section 9). Do not copy switch positions by eye. Version 1: fit a 120 Ω resistor across the correct pins. Version 2: use the termination switches. Power cycle the unit after any change.
Unit is hot, discolored, or smells burnt	Ventilation is blocked or the area is above +75 ºC (+167 ºF). Wrong supply voltage.	Turn off and lock out power right away. Fix the cause (ventilation or voltage) before powering up again. Do not open the unit. Replace it and contact Comnet support.

13. Technical specifications

SPECIFICATIONS	
DATA	
Data Format	RS232, RS422, 2- or 4-wire RS485 w/Tri-State, Manchester, bi-phase, Sensornet
Data Rate	DC to 250 kbps, NRZ
Operating Mode	Asynchronous, simplex or full-duplex
Bit Error Rate	< 10^{-9} @ Maximum Optical Loss Budget
FIBER OPTIC	
Fiber Optic Wavelength	1-strand models: 1310/1550 nm | 2-strand models: 1310 nm
Optical Emitter	Laser
CONNECTORS	
Power Connectors	2-Pin Power Terminal Block
Optical Connectors	Optical ST
Data Connectors	7-Pin Data Terminal Block
POWER	
Operating Voltage Range	8 to 36 VDC
Rack Mount (ComFit units)	Power supplied from rack
Power Consumption	2 W
Current Protection	Automatic Resettable Solid-State Current Limiters
ELECTRICAL & MECHANICAL	
Indicating LEDs	Power, Data In, Data Out, Link, Loop-Back
Circuit Board	Meets IPC Standard
Size – Mini (L x W X H)	4.1 x 3.7 x 1.1 in (10.4 x 9.4 x 2.8 cm)
Size – ComFit (L x W x H)	6.1 x 5.3 x 1.1 in (15.5 x 13.5 x 2.8 cm)
Number of Rack Slots	1 (ComFit Units)
Shipping Weight	<2 lb. / 0.9 kg

ENVIRONMENTAL	
MTBF	> 100,000 hours
Operating Temperature Range	−40 °C to +75 °C (−40 °F to +167 °F)
Storage Temperature Range	−40 °C to +85 °C (−40 °F to +185 °F)
Relative Humidity Range	0% to 95% (non-condensing)

NOTICE	Approval and compliance information can change. Verify the marks and certifications printed on the actual product and the latest Comnet datasheet for the destination country and application.

14. Disposal, warranty, and compliances

Warranty and service

The supplied Comnet datasheets state a limited lifetime warranty. Warranty coverage, RMA procedure, and current terms are governed by Comnet documentation in effect at the time of service. Do not open the device or attempt internal repair. For current product and support information, visit comnet.net or acresecurity.com.

Decommissioning and disposal

- Disconnect and verify input power is off before removing conductors.
- Place the connected equipment in a safe state and label any disconnected circuits.
- Recycle packaging materials where facilities exist.
- Do not dispose of the device with ordinary household waste. Use an approved electrical/electronic equipment recycling channel in accordance with local requirements.

Compliance

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15. Contact us

Reach out to Comnet today to discuss any technical questions you may have. We're here to provide expert guidance.

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