

Description

The FOI-2871 provides complete electrical isolation for 4-wire E&M Type II, III, IV, and V voice signaling. 2-wire audio and E&M Type I are not supported.

The unit can be used in areas of high electrical noise or in and out of RF shielded enclosures. The fiber optic cable is not susceptible to interference caused by impulse noise, crosstalk, or EMI. Privacy of communications is also enhanced because the fiber optic cable does not radiate any emissions. FiberPlex recommends "R" units for high security applications because the units have added filtering and shielding for RFI suppression.

In addition, fiber optic cable offers much longer transmission distances than traditional E&M cabling. Multimode optics on the FOI-2871 can extend the distance to 2km. A typical link consists of two FOI-2871, one at each end of the network, with a duplex fiber optic cable between them as shown under "TYPICAL APPLICATION".



Telephone

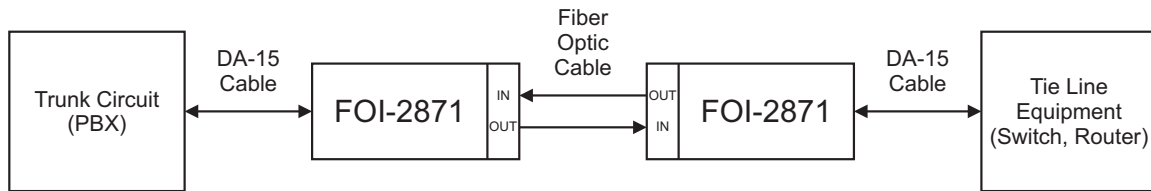
**4-Wire Audio
E&M Type II - V
(Ear & Mouth Type 2 - 5)**

FOI-2871: Multimode

Features:

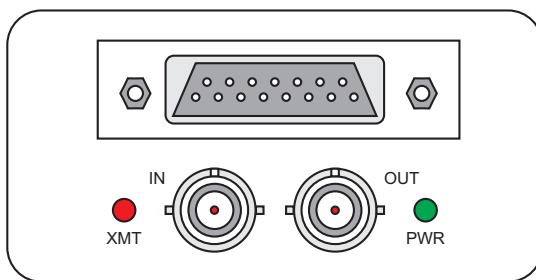
- 4-wire audio provides separate paths for transmit and receive signals
- E&M Type 2 through 5 are supported

Typical Application



LED indicators

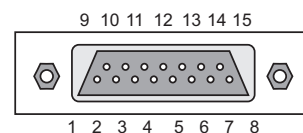
Label	Color	Description
PWR	Green	Power supply in FOI unit is operating properly.
	Off	No power from the PSQ power supply or open fuse inside the FOI unit. Check that the PSQ power supply is operating properly. If the PSQ power supply is good, separate the FOI unit from the PSQ power supply for 30 seconds and then reattach so that the fuse inside the FOI unit has time to reset. If the PWR led is still off or not constant, replace the FOI unit.
XMT	Red	Push-To-Talk (PTT) audio is being sent out of the fiber optic transmitter.
	Off	To activate the Push-To-Talk (PTT) operation, apply a negative voltage to pin 6 or ground pin 4 by shorting pin 4 and 12 together on the DA-15 female connector. This will actuate the relay in the FOI-2871 at the far end causing pins 5 and 13 to close and pins 5 and 14 to open, which enables the transmit audio path.



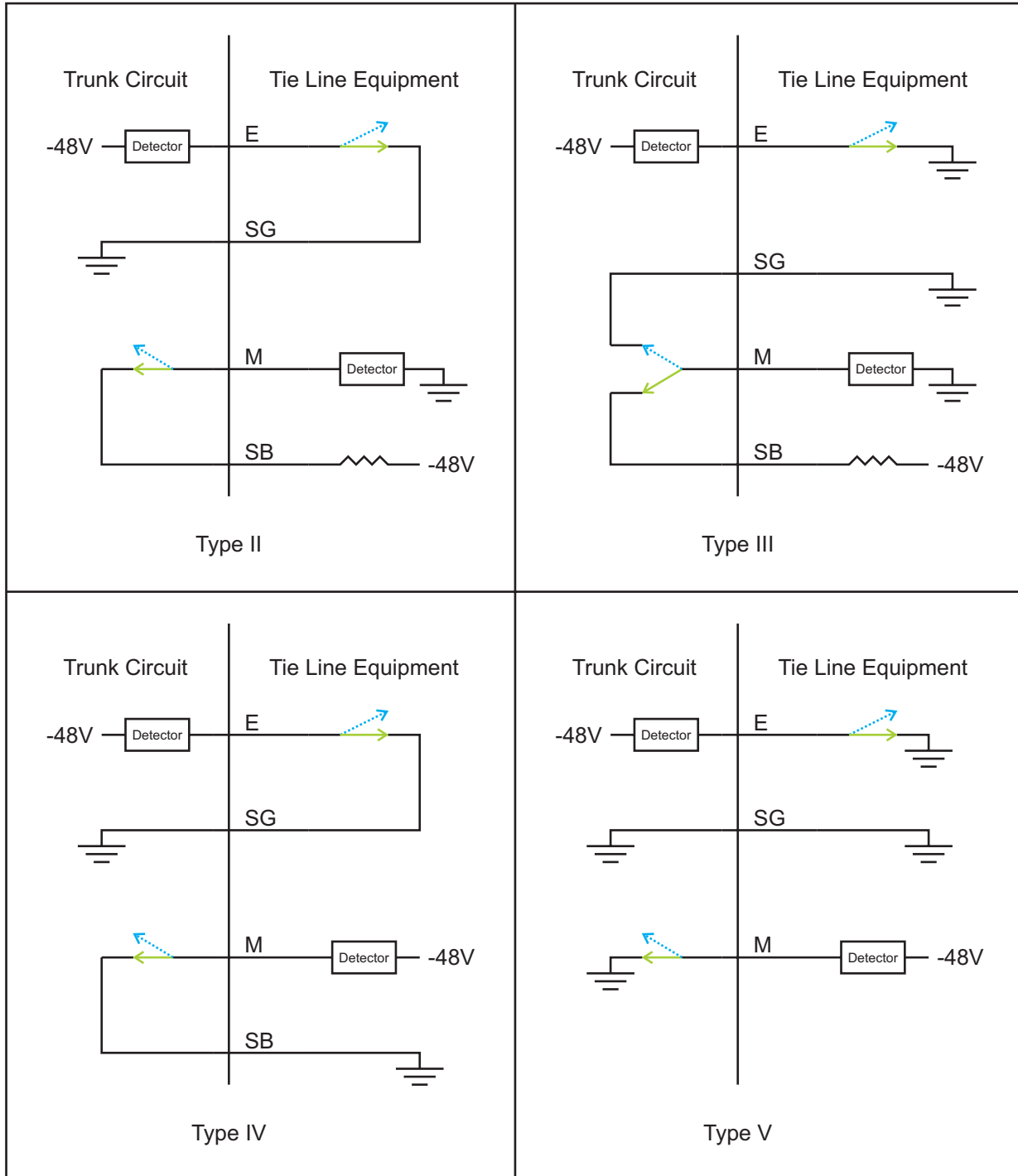
FOI-2871-ST Front View

DA-15 Female pinout

Pin	Direction	Description
1		Chassis Ground
2	Out	Receive Audio (Ring A)
3	In	Transmit Audio (Ring B)
4	In	E&M Input
5	Relay	Common
6	In	-5 V to -48 V
7		
8		
9		
10	Out	Receive Audio (Tip A)
11	In	Transmit Audio (Tip B)
12		Signal Ground
13	Relay	Normally Open
14	Relay	Normally Closed
15		

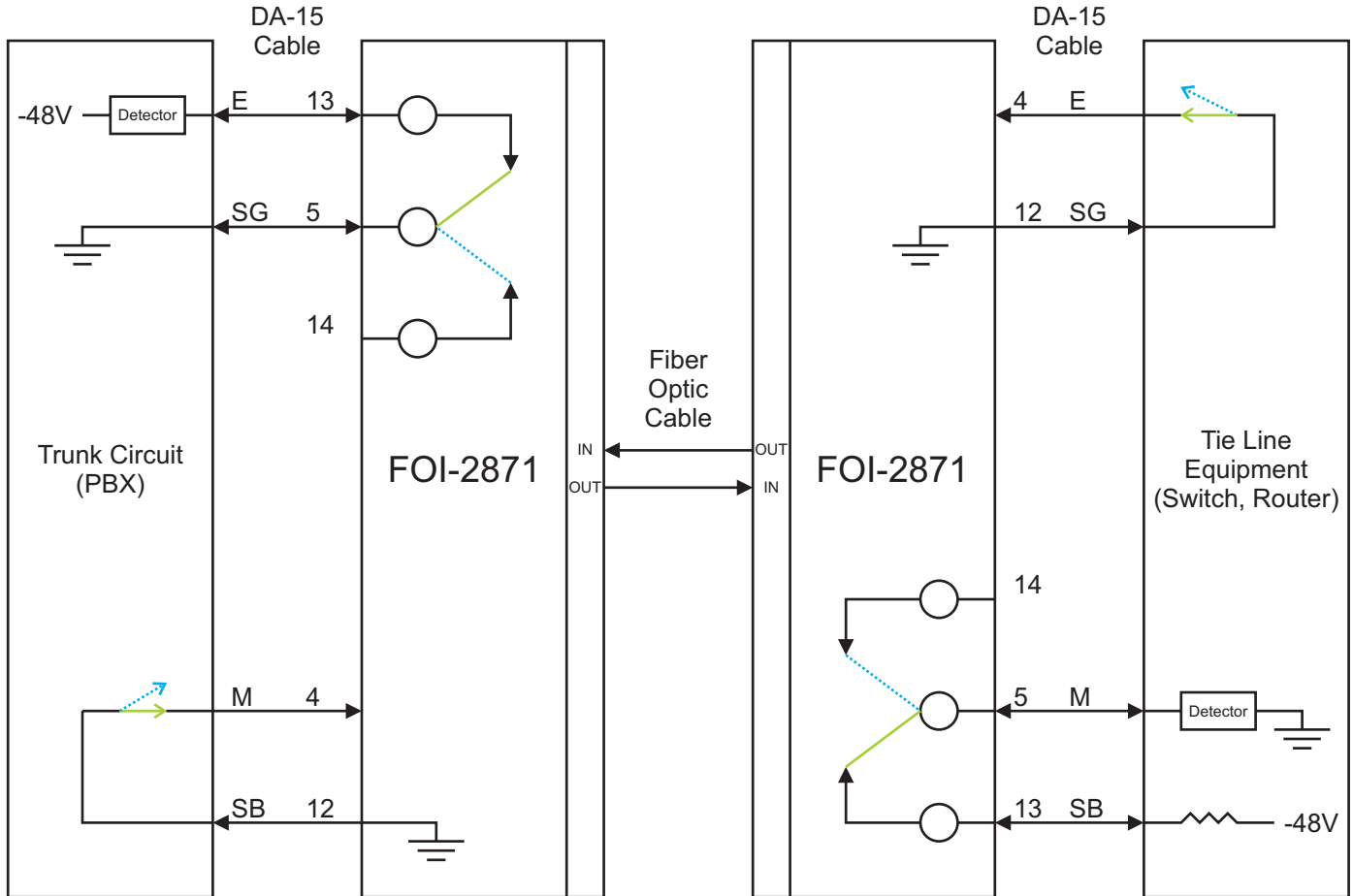


Typical Application
E&M TYPE II - V (Ear & Mouth Type 2 - 5)



■ ■ ■ ■ Inactive E - ear SG - signal ground
■ Off-hook M - mouth SB - signal battery

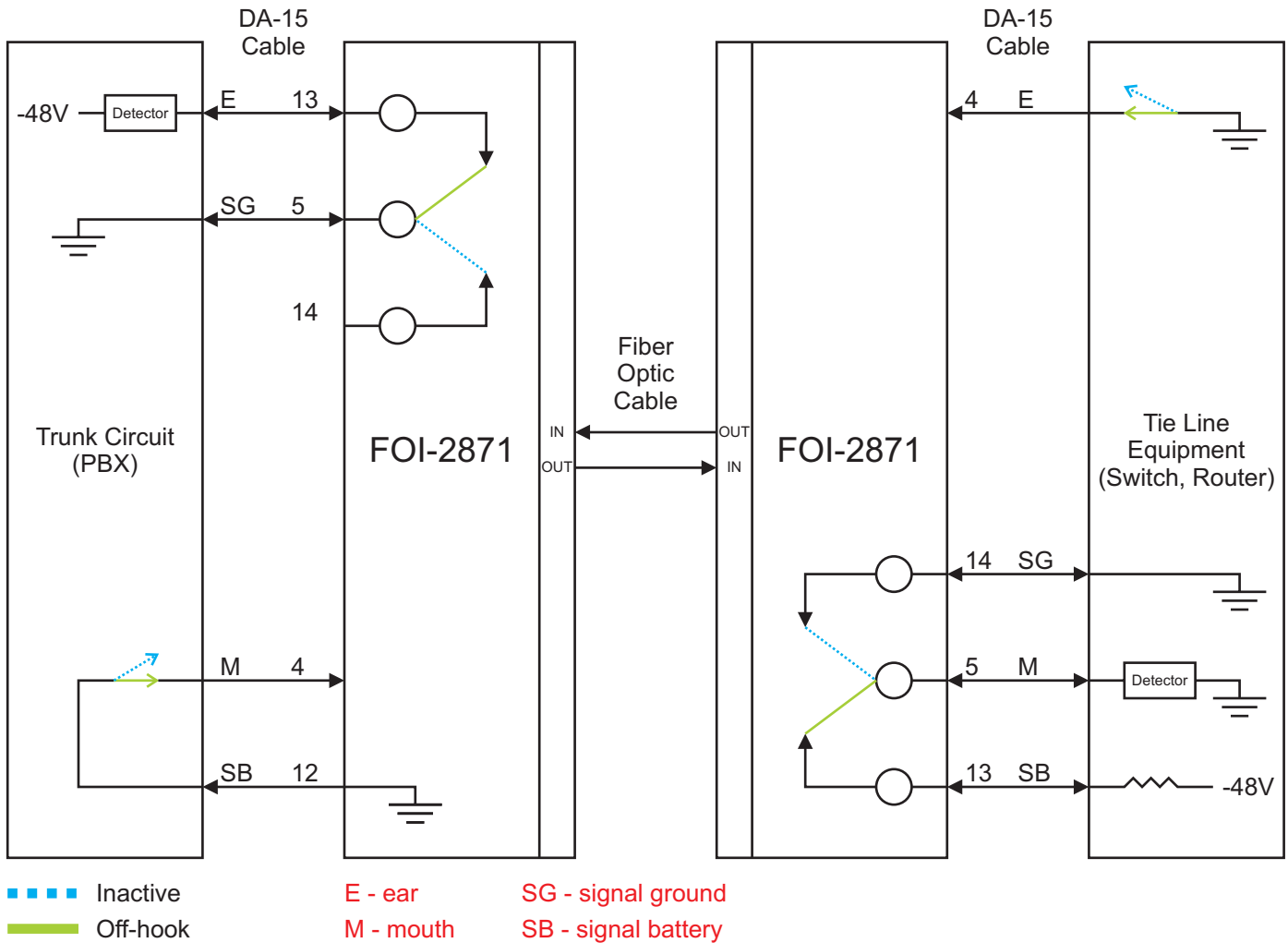
Typical Application
E&M TYPE II (Ear & Mouth Type 2)



■ ■ ■ ■ Inactive
■ ■ ■ ■ Off-hook
E - ear SG - signal ground
M - mouth SB - signal battery

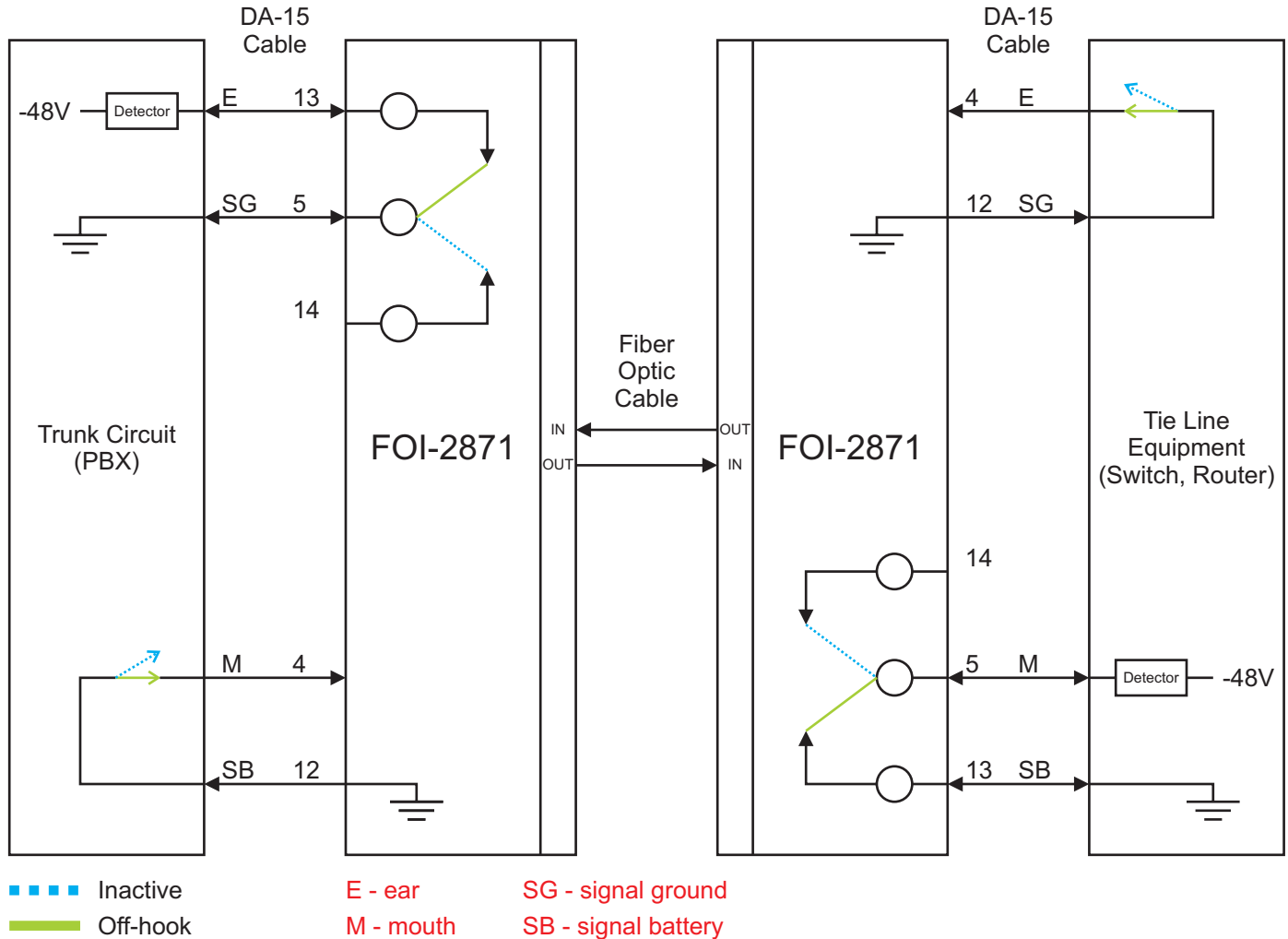
- Type II uses four leads for supervision signaling: E, M, SB, and SG.
- During inactivity the E-lead and the M-lead are both open.
- The PBX indicates an off-hook condition by connecting the M-lead to the signal battery (SB) lead on the tie line equipment side.
- The router indicates an off-hook condition by connecting the E-lead to the signal ground (SG) lead on the trunk circuit side.

Typical Application
E&M TYPE III (Ear & Mouth Type 3)



- Type III uses four leads for supervision signaling: E, M, SB, and SG.
- During inactivity the E-lead is open and the M-lead is connected to the signal ground (SG) lead on the tie line equipment side.
- The PBX indicates an off-hook condition by disconnecting the M-lead from the signal ground (SG) lead and connecting it to the signal battery (SB) lead on the tie line equipment side.
- The router indicates an off-hook condition by connecting the E-lead to ground on the trunk circuit side.

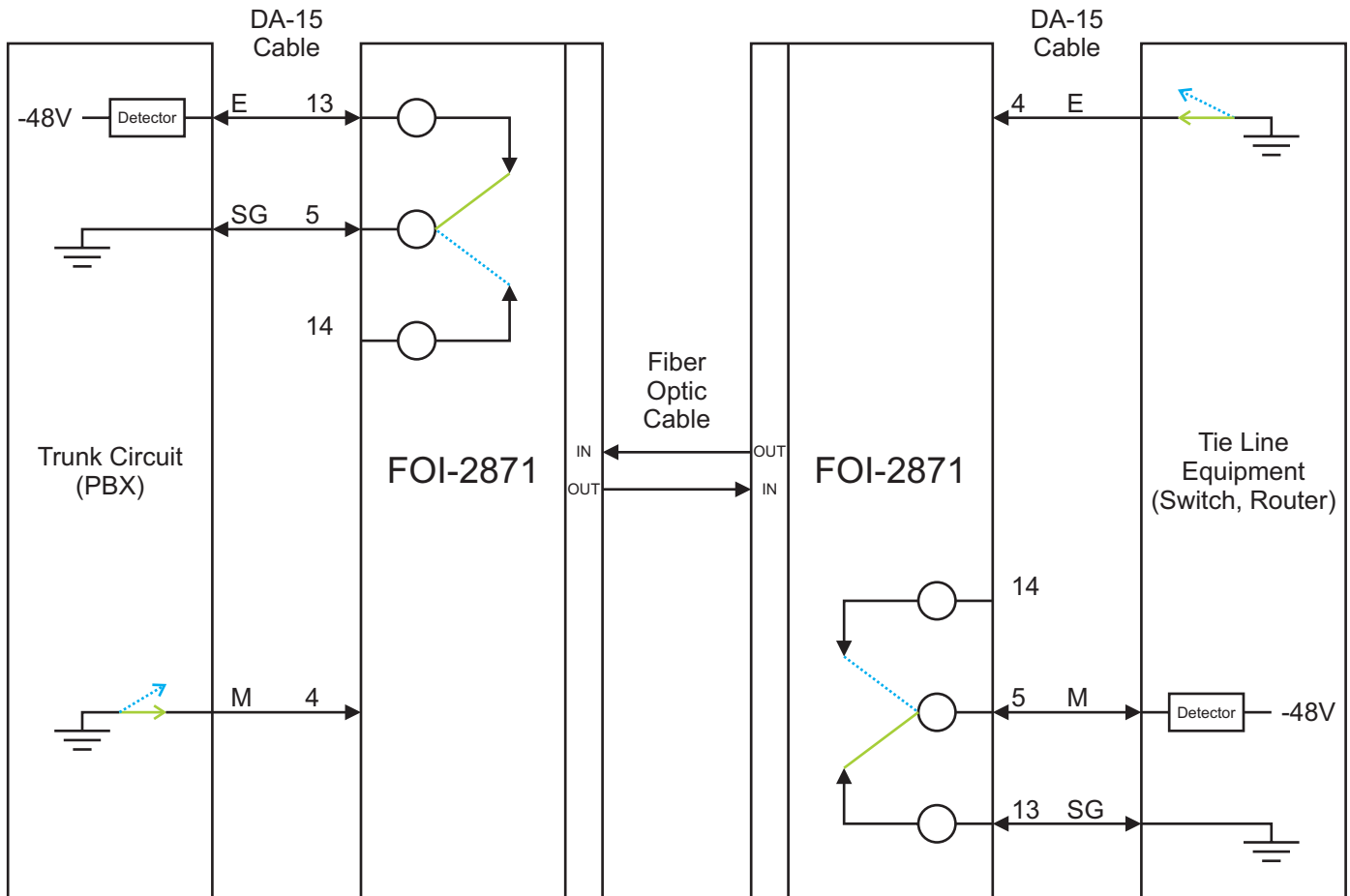
Typical Application
E&M TYPE IV (Ear & Mouth Type 4)



- Type IV uses four leads for supervision signaling: E, M, SB, and SG.
- During inactivity the E-lead and the M-lead are both open.
- The PBX indicates an off-hook condition by connecting the M-lead to the signal battery (SB) lead on the tie line equipment side.
- The router indicates an off-hook condition by connecting the E-lead to the signal ground (SG) lead on the trunk circuit side.

Typical Application

E&M TYPE V (Ear & Mouth Type 5)



- ■ ■ ■ Inactive
- Off-hook
- E - ear
- M - mouth
- SG - signal ground
- SB - signal battery

- Type V uses two leads for supervision signaling: E and M.
- During inactivity the E-lead and the M-lead are both open.
- The PBX indicates an off-hook condition by connecting the M-lead to ground on the tie line equipment side.
- The router indicates an off-hook condition by connecting the E-lead to ground on the trunk circuit side.

Specifications

		minimum	typical	maximum	unit
Power Requirement	Voltage Range	7	9	12	V
	Supply Current	-	150	-	mA
Audio	Input Level	-	-	5	dBm
	Load Impedance	-	600	-	Ω
	Frequency Response (±3 dB)	200	-	8k	Hz
Environmental	Storage Temperature	-40	-	85	°C
	Operating Temperature	0	-	50	°C
Interface Connector	DA-15 Female				
Case Dimensions	Size 2	length	width	height	weight
		4.5 in (114 mm)	1.312 in (33 mm)	2.562 in (65 mm)	2 lb (0.9 kg)

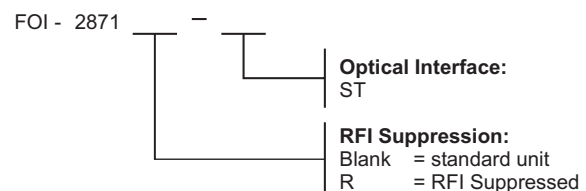
Optical characteristics

Fiber	Size	Max Distance	Wavelength	Output Power	Receiver Sensitivity	Loss Budget
FOI-2871 Multimode	62.5 / 125 μm	2 km	820 nm	-18 dBm	-24 dBm	6 dB

Accessories

Model	Description
CMA-2001	Chassis Mount Adapter for RMC-2101
CMA-3002	Chassis Mount Adapter for RMC-3101, RMC-3102
PSQ-2910	Power Supply for FOI-2xxx series
RMC-2101	Rack Mount Chassis, 3-1/2" H x 19"W, rear access
RMC-3101	Rack Mount Chassis, 5-1/4" H x 19"W, front access
RMC-3102	Rack Mount Chassis, 5-1/4" H x 19"W, front access with optical patch panel
WMA-2001	Wall Mount Adapter with optical patch
WMA-3002	Wall Mount Adapter

Ordering Information



Standard Options:

FOI-2871-ST
FOI-2871R-ST

For special applications that require custom units, please call FiberPlex for more information.