

Optical communication solution developed to enhance reliability and availability of SCADA networks.

**Advanced performance and functionalities providing the proper environment for DAS/A-DAS.**

# FiberMesh



**IMPROVES NETWORK PERFORMANCE OF AUTOMATION AND CONTROL SOLUTIONS, LIKE SELF-HEALING**

**OPTIMIZES NETWORK MAINTENANCE**

## Smart

Using a Plug'n Play communication protocol, the system is able to dynamically self-configure optical routes up to a 20 km distance between equipments.

## Safe

Each FiberMesh node creates a quadruple redundancy and by its optical bypass guarantees the communication link even when power is off.

## Sturdy

Designed for environmental conditions similar to electrical equipment used in outside plants.

**Service life of 10 years or more**

## Green

May be installed in small locations with high temperatures with no need for air conditioning. Power consumption < 10 W.

## Connectivity

4 Ethernet 100 Mbps ports and 2 serial data ports. GPS and optical switch integrated.

# Communication system for D.A.S. networks, SCADA communication, Mesh topology through fiber optics and 100 Mbps bandwidth.

*Easily managed by SNMP.*



**BRAZILIAN TECHNOLOGY**

## TECHNICAL SPECIFICATIONS

### OPTICAL PORTS

4 100Base BX BiDi ports for FiberMesh network

### SCADA COMMUNICATION

Fully compatible with automation protocols such as **IEC60870-5-101/104, DNP3**

### ETHERNET PORTS

4 Fast Ethernet ports for **10BASE-T/100BASE-TX** applications

### SERIAL PORTS

2 serial ports for RS232 applications

### OPTICAL LINK REACH

20 km or more (18 dB in bidirectional transmission  $\lambda$  1310 nm/1550 nm)

### MAINTENANCE (LOCAL)

Firmware configuration and upgrade through USB port

### MAINTENANCE (REMOTE)

SNMP and Telnet through Ethernet port

### ROUTE DISCOVERY TIME

1 second or less

### OPERATING TEMPERATURE

-30°C ~ +70°C

### INSTALLATION

Outdoor inside cabinets or indoor in rack or wall-mounted

### DIMENSIONS

243 mm x 43 mm x 135 mm (W x H x D)

**WEIGHT**  
~ 1 kg

**INRUSH CURRENT**  
700 mA

**VOLTAGE**  
From 9V DC to 36V DC

**POWER CONSUMPTION**  
6,5 W (12 VDC)

**HUMIDITY**  
95% (without condensation)

### CERTIFICATIONS

Anatel Class A, category III – "Data Network Equipment"

**FiberMesh** is the best long-term choice.

## Capex



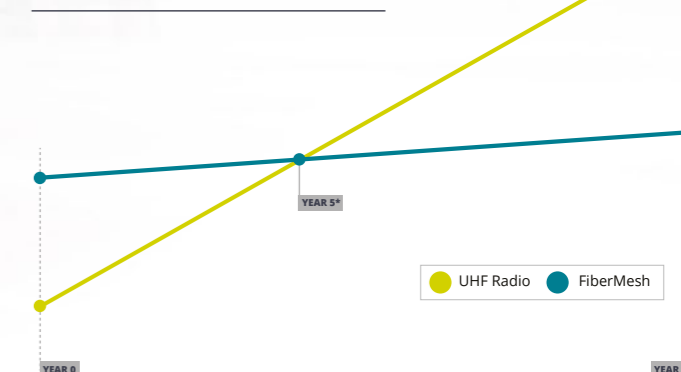
**CAPITAL EXPENDITURE**  
Comparison between FiberMesh units vs suppliers' prices average

## Opex



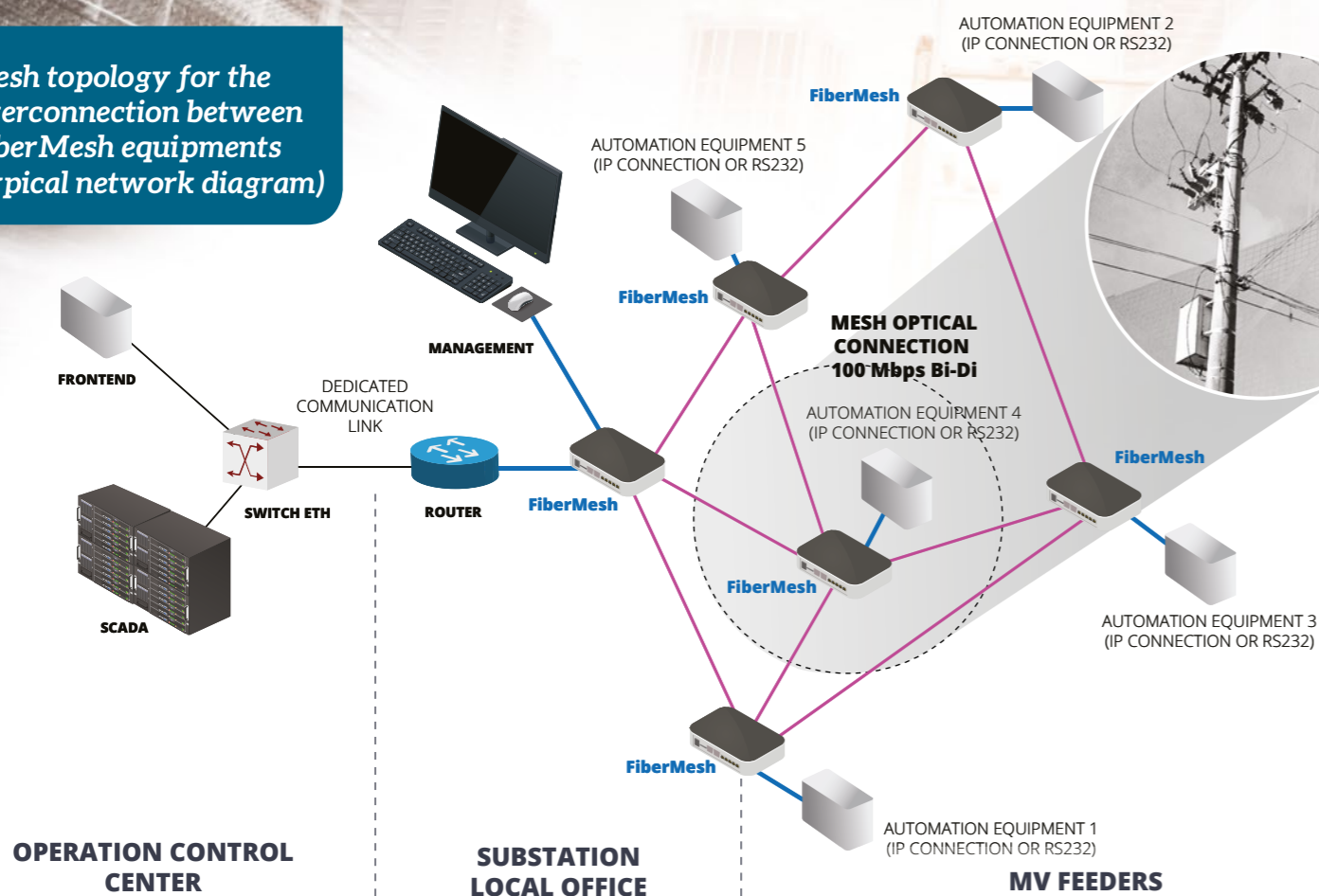
**OPERATIONAL EXPENDITURE**  
(R\$/year)

## CAPEX + OPEX



\*Estimations based on a 500 units project

**Mesh topology for the interconnection between FiberMesh equipments (typical network diagram)**





**FURUKAWA  
ELECTRIC**

[www.furukawatam.com](http://www.furukawatam.com)