



# Extender488™ & Extender488/F™



## IEEE 488 Bus Extenders

### Features

- Overcomes the 20 meter cable limitation imposed by the IEEE standard by economically extending the bus up to 1,000 meters via RS-422 or fiber optic
- Expands the number of devices allowed on the bus from 15 to 28
- Operates transparently to the IEEE controller; requires no programming changes for most applications

The Extender488™ series provides an economical solution to the 60 ft. (20 m) distance limitation of the IEEE bus. Using high-speed 115.2K baud serial data transmission, a pair of extenders can stretch the bus up to 4,000 ft. (1,000 meters).

Extender488 uses differential RS-422 drivers and receivers that provide high noise immunity with low-cost twisted-pair cabling. Extender488/F™ uses duplex fiber-optic data transmission, which provides high electrical isolation as well as high noise immunity.

The Extender488 series operate transparently to the IEEE controller, requiring no special programming, with the exception of Parallel Poll. Parallel Polls must be performed twice due to the speed specification of the IEEE bus.

The number of devices that can be controlled on the bus is doubled by the extenders. Both the local and remote bus can have up to 14 devices each, in addition to the extenders.

Extender488 series is packaged in a rugged all metal case, convenient for bench top and rack mount applications.

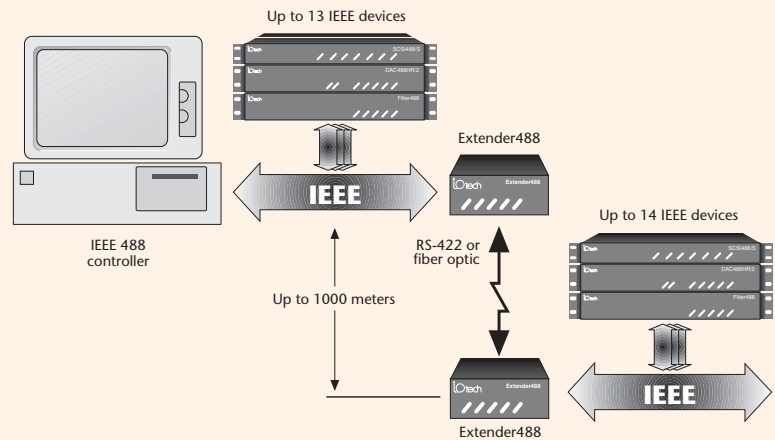
### Specifications

**IEEE Connector:** Standard IEEE 488 connector with metric studs  
**Average Maximum Data Transfer Rate:** 4 Kbytes/s  
**Extender488 Serial Interface (RS-422):** Differential drivers and receivers, operating at 115.2K baud, 8 data bits, 1 stop bit, odd parity; lower baud rates are switch selectable for modem applications.  
**Extender488/F Serial Fiber Optic Cable:** Exit Numerical Aperture, 0.3 typ Optical fiber core diameter, 100 µm glass fiber. Outside cladding diameter, 140 µm. Maximum attenuation, 6 dB/km. Minimum bandwidth, 40 MHz @ 1 km and 820 nm. Connectors, SMA-905.



The Extender488 series enables instruments to be located up to 4,000 feet from host IEEE controller

### Extender488 System Example



**Indicators:** LEDs for Talk, Listen, SRQ, Error and Power  
**Power:** 105 to 125 VAC, or 210 to 250 VAC, 50/60 Hz, 10 VA  
**Environment:** 0° to 50°C; 0 to 95% RH, non-condensing  
**Controls:** Power switch and baud rate selector  
**Dimensions:** 138 mm W x 190 mm D x 68 mm H (5.4" x 7.5" x 2.7")  
**Weight:** 0.96 kg (2.11 lbs)

### Ordering Information

<b>Description</b>	<b>Part No.</b>
IEEE bus extender via RS-422 (two required)	Extender488
IEEE bus extender via fiber-optic (two required)	Extender488/F

### Cables

<b>Description</b>	<b>Part No.</b>
Shielded IEEE 488 cable, 6 ft.	CA-7-3
Shielded four conductor RS-422 serial cable with mating connectors (specify length, x, from 10 to 4,000 ft.)	CA-18-X
Fiber-optic cable with mating connectors (specify length, x, from 10 to 4,000 ft.)	CA-24-X

For complete information on accessories and cables, visit [www.iotech.com/acc](http://www.iotech.com/acc)