

FE-579-TA Bridge Amplifier



Front panel shown actual size

- Full and Fractional Bridges
- Auto Balance and Auto Zero
- 4 selectable bridge supply settings
- 8 pole filter
- Shunt Calibration

The FE-579-TA is a low noise differential amplifier for conditioning full and fractional bridge transducers.

The module provides front panel control for signal gain, bridge supply voltage, shunt calibration, filter selection, and auto bridge balancing.

Front panel controls can be disabled and this module also provides an option for remote control.

A simple jumper configuration selects bridge type including 1/4 bridge 350Ω and 120Ω, 1/2 bridge, and full bridge. Remote supply sensing and local shunt calibration are also provided.

Power requirement is 200-250V AC or alternatively 100-120 V AC. 12V D.C. powered modules are also available.

The module is mechanically and electrically compatible with other FYLDE modules and with FYLDE 2U racks and instrument cases.

Description

This transducer amplifier in a 1 inch width format allows greater channel density than the Fylde FE-379-TA while retaining full front panel control. The FE-579-TA provides simple push-button control of gain, bridge supply, shunt calibration, low pass filter and auto-balance. Only minimal jumper configuration is required for all full and fractional bridge types. The combined auto-balance and auto-zero simplifies bridge balancing to a single pushbutton operation. Up to 16 channels can fit in 2U of standard 19 inch rack space, and systems can be supplied with a serial connection for remote control.

Specification

INPUT	resistance offset voltage/current protection filter voltage drift voltage noise	>50M Ω . <50 μ V warmed up /typ.10 nA. \pm 30 V protection. capacitors limit high frequency noise pick-up. <1 μ V / $^{\circ}$ C. 10 μ V pk. - pk. (note 1).
GAIN	steps error (any step) stability	1,3,10, 30, 100, 300, 1k, 3k. \pm 0.1% better than 0.01% / $^{\circ}$ C.
COMMON MODE	rejection	>100 dB DC - 100 Hz.
FREQUENCY	response	DC to 100 kHz (- 3 dB) >5 V / μ s slew rate.
FILTER	response setting Control Offset	8 pole Butterworth (Bessel to special order) up to 50 kHz Fc by using a field changeable resistor pack Filter In/Out selected by front panel control. < \pm 1 mV on changing resistor pack.
BRIDGE	supply accuracy current calibration auto zero completion auto balance	1,2,5, and 10V (note 3). \pm 0.1% 30 mA, s/c protected. Shunt calibration. (Resistor is field changeable). 16 bit digital voltage correction, will correct \pm 5V offset at all gains. full, half and quarter, for 350 Ω and 120 Ω , by pcb jumper. Digital balance potentiometer with internal Rbal resistor balances transducers with fine adjustment completed by auto zero. Auto-balance and/or auto-zero can be individually enabled.
OUTPUT	level noise (voltage o/p) offset impedance	\pm 10V. < 1 mV pk - pk (note 1) < \pm 5 mV. <0.1 Ω (note 2).
CONTROL	indicators	Front panel indication of gain setting, bridge supply setting, calibration setting, filter setting, and auto-balance status.
POWER SUPPLY		205V-255 V 50 Hz or 103 V-127 V 50/60 Hz 12 V d.c. by fitment of FE-605-DCC d.c. converter.
ENVIRONMENTAL	temperature range	0 to 50 $^{\circ}$ C
DIMENSIONS		1 inch wide panel in 2U rack height. Module dimensions (mm) 70(H) x 181(L) x 25.4(W).
PROGRAMMING		Remote setting of Gain, Filter, Bridge supply voltage, Calibration and auto-balance activation if remote control option specified for the rack.
	Notes	1. Gain x1k. 90% occurrences, measurement bandwidth 100 kHz. 2. Module only, backplane connectors and EMC filter. 3. Alternative ranges available - contact factory.