

FE-379-TA TRANSDUCER AMPLIFIER



- $\pm 10V$ OUTPUT & OPTIONAL 4-20mA.
- LOW NOISE & LOW DRIFT
- OPTIONAL PLUG IN DIGITAL AUTO ZERO CARD
- LED BALANCE INDICATORS
- WIDE BANDWIDTH
- INTEGRAL LOW NOISE POWER SUPPLY
- WIDE RANGE LOW PASS FILTER
- OPTIONAL PLUG IN 8 POLE FILTER

This high performance DC bridge/Transducer Amplifier replaces the popular FE359TA and FE369TA, and meets or exceeds the specifications of both. It is suitable for use with DC bridge type transducers and complete or fractional strain gauge bridges.

Bridge supply is variable from 100mV to 12 volts at 50mA capability, with improved remote sensing allowing operation through zener barriers if required. Balance is indicated by twin LEDs.

Dynamic Voltage and dc shunt calibration with remote control facilities are provided, as well as alternative external resistive methods. Wide range, front panel switched, active Low Pass Filter is standard.

The high performance pre-amplifier has gain calibrated from 1mV to 1V for full scale output, and features very low noise, high stability and linearity, high CMRR and wide dynamic range.

Low power voltage outputs are provided for Computer A-D ($\pm 10V$ @10mA), and tape recorders.

For industrial environments, a two wire 4-20mA current output is available which is immune to voltage drops in long cable runs, and rejects noise cause by motors, relays, actuators, transformers etc.

The FE-379-TA may be upgraded with a plug in Digital Auto-Zero card. This enhances the performance of the amplifier by allowing automatic balancing of bridges, either from the front panel or remotely.

A position exists for an auxillary plug in card, this may be used to add an 8 pole anti-alias filter if required.

Mains power supply is integral, and the module requires only one DC converter for 12V operation.

This 2" wide MINI module is plug compatible with other Fylde modules such as the Charge Amplifier, Carrier Amplifier, Differential DC Amplifier and Active Filter.

Housings are available for individual modules or for multi-channel systems with monitoring facilities.

BRIDGE	Voltage	Constant voltage adjustable 100mV to 12V with local or remote sensing. Panel mounted test connector.
	Current	50mA max (s.c. protected)
	Completion	120Ω and 350Ω completion available on card via plug links.
	Calibration	Panel mounted switch provides shunt calibration. Alternative external resistor may be selected.
	Stability	0.01% of output voltage / °C.
	Zero	Multi-turn cermet potentiometer.
AUTO-ZERO	Description	Optional plug in upgrade card. Features microprocessor controlled, digital injection of counter emf with non-volatile store of zero.
	Range	±50% of input range, ie. ±5mV, ±50mV, ±0.5V.
	Period	<1 s to zero after switch or external reset.
	Averaging	A 1 V pk-pk 50 Hz sine wave present at the pre-amp output will cause a worst case offset of 200 mV.
	Reset	TTL or CMOS compatible via opto coupler.
	Null	<±0.025% of input range.
	Temp.Coeff.	<0.005% of input range / °C.
AMPLIFIER	Sensitivity	Switched 10mV, 100mV and 1V for full output. calibrated 10T dial for variable sensitivity.
	Linearity	<0.02% deviation.
	Accuracy	±0.5%.
	Stability	0.02% - 12 months.
INPUT	Impedance	10MΩ balanced differential.
	Offset current	<50nA.
	Stability	0.01% full scale/°C. 0.1% full scale 1000 hours.
	Noise	0.1% fs pk-pk wide band. Improved noise at lower bandwidths, typically 1μV pk-pk rti @ 100Hz.
	Protection	Against signal or common mode overloads.
COMMON MODE	Rejection	>100dB on maximum sensitivity.
	Range	±7V operating, ±20V maximum.
BANDWIDTH		DC - 50kHz, -3dB. (Wider bandwidth versions may be produced - please contact factory)
FILTER	Characteristic	Butterworth 2 pole.
	Steps (Hz)	10, 30, 100 and WB (filter out).
	Multiplier	x100, giving 1kHz, 3kHz, 10kHz.
	Accuracy	Typ. ±1% @ -3dB point
ZERO	Switch	"zero/signal" isolates amplifier from bridge.
	Indicator	2 LEDs continuously illuminated. Thresholds ±25mV
CALIBRATION	Switch	Injects 50% full scale output.
OUTPUT	Direct	1 ±10V @ ±10mA, 1Ω impedance. 2 LF galvo o/p with built in damping resistors.
	4-20mA (option)	Scaled for:- 20mA when pre-amp @ +10V ±1% 12mA when pre-amp @ 0V ±1% 4mA when pre-amp @ -10V ±1%
AUXILIARY CARD	Function	Functions available include anti-alias filters, precision rectifiers, & a unity gain isolator card. Comprehensive linking options allow the auxiliary circuit to be placed in most signal paths and allow for a variety of output configurations. A custom card service is available.
	Size	60mm x 24mm
	Available Power	±12.6v @ 10mA
	Voltage Reference	+2.5v @ 1mA
	Inputs	Link selectable Pre-amp, Direct and one edge connector pin.
	Outputs	Link selectable Direct, LF galvo, 4-20mA or separate attenuated output
LIMIT DETECTOR	LED	Red LED illuminates when Pre-amp or Direct output > ±10.00V
POWER SUPPLY REQUIREMENT		100-120V or 200-250V 50/60Hz link selected. or 12V DC by FE-605-DCC fitment.
TEMPERATURE RANGE		0 - 50°C operating.
DIMENSIONS AND WEIGHT		Panel 2.75"x2" wide, depth 7.7". Wt. 1.6oz(450gm).
HOUSING	Options	Single, 4 module or up to 8 modules in 19" crate.