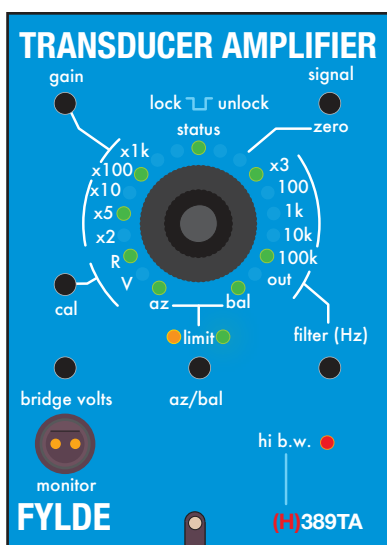


FE-(H)389-TA TRANSDUCER AMPLIFIER



- GAIN RANGE FROM x5 TO X10000
- (H) VERSION BANDWIDTH > 2MHz
- *SMART* INPUT STAGE (H) OPTIMISES BANDWIDTH / NOISE AS REQUIRED
- VERY LOW NOISE & LOW DRIFT
- WIDE RANGE LOW PASS FILTER
- 10V to 36V DC POWERED
- STANDARD VERSION, HARDWARE UPGRADABLE TO (H) VERSION

This high performance DC Bridge / Transducer Amplifier replaces both the FE-379-TA & FE-H379-TA amplifiers and is available in two versions. The standard FE-389-TA has a bandwidth of >1MHz and gains from x10 to x5000. The standard version is hardware upgradable to the FE-(H)389-TA version. This provides an increased gain range (x5 to x10000) and a *SMART* Input Stage that automatically configures itself to provide the lowest noise or highest bandwidth (>2MHz) depending on the Front Panel settings. Because of the *SMART* Input Stage the output noise of the FE-(H)389-TA with a >2MHz bandwidth is substantially lower than that of the FE-H379-TA (bandwidth 500kHz). Low Frequency (L.F. or 1/F) noise has also been substantially lowered. Six Front Panel push buttons and a single rotary controller allow for simple adjustment of all functions (*gain, filter, bridge volts, cal, auto-zero, auto-balance etc.*) A ring of 19 multi-colour LEDs around the controller are used to indicate all the function states. Once set up is complete, all controls can be *locked* to help avoid inadvertent changes to settings.

It is suitable for use with DC bridge type transducers and complete or fractional strain gauge bridges. Because of its high bandwidth (>2MHz), the FE-(H)389-TA is highly recommended for Hopkinson Bar type measurements.

Bridge supply is variable from 100mV to 12 volts at 50mA capability, with remote sensing allowing operation through zener barriers if required. Bridge 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. A wide range, front panel switched, active Low Pass Filter is standard.

The module is powered from 10V to 36V DC. This allows it to be used directly in automotive environments or it can be mains powered via standard mains adaptors.

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

Bridge	Voltage	Constant voltage adjustable 100mV to 12V with local or remote sensing Front panel mounted test connector	
	Completion	120Ω and 350Ω completion available on card via jumper links	
	Calibration	R cal provides shunt calibration	
	Stability	0.01% of output voltage / °C	
	Zero	Digital Pot controlled via front panel encoder	
Auto-Zero	Description	Injection of counter emf with non-volatile store of zero	
	Range	50% of input range	
	Period	<1S to zero	
	Trigger	Front panel switch or TTL / CMOS external isolated signal	
	Null	<±0.05% of input range	
	Temp Coeff.	0.005% of input range / °C	
Amplifier	Gain	Standard	Switched x10 to x5,000 in 1, 2, 5 steps
		(H) version	Switched x5 to x10000 in 1, 2, 5 steps
	Linearity	<0.02% deviation	
	Accuracy	< ±0.1%	
	Stability	0.02% - 12 Months	
Input	Impedance	10MΩ balanced differential	
	Stability	±1μV/°C. rti 0.1% full scale 1000 hours.	
	Noise	2.5μV RMS, 15μV pk-pk RTI (1MHz measurement bandwidth)	
	Protection	Against signal and common mode overloads to ±30V	
Common Mode	Rejection	L.F. >110dB @ 50Hz	>100dB @ 400Hz
		H.F. >40dB @ 1MHz	
	Range	±10V operating	
Bandwidth	Standard	DC to >1MHz (-3dB).	
	(H) version	DC to > 2MHz (-3dB).	
Slew Rate		Output will produce a 2MHz 20V pk-pk Sinewave (no distortion)	
Filter	Characteristic	Butterworth 3 pole Low Pass, 12 dB/Octave, 60dB/Decade	
	Steps	300Hz to 300kHz (-3dB) in 1, 3, 10 steps (6 steps)	
	Accuracy	Typically ±2% @ -3dB point	
Calibration	V cal	Injects 5V pk-pk square wave at output	
Output		±10V @ ±10mA <1Ω impedance	
Power	Requirement	10VDC to 36VDC	2.5VA
Temperature	Range	-25°C to +85°C operating.	
Dimensions		Panel 2.75" x 2.0" wide, depth 7.7" (69.85 x 50.8 x 195.58mm)	
Weight		16oz (450g)	
