FYLDE

MODULAR INSTRUMENTATION

FE-859-HA Head Amp for FE-859-TA programmable transducer amplifier

The FE-859-HA extends the capability of the FE-859-TA programmable Transducer Amplifier to enable the connection of Differential and Single Ended Charge Transducers, and also ICP transducers.

Occupying a 1.5U x 5HP rear panel space, the Head Amplifier also provides completion for 1/4 and 1/2 bridges as required.

A single 15 way high density D connector provides input and power for all transducer types, and it can feature unique identification of each transducer type by use of the TEDS (Transducer Electronic Data Sheet) technique.

Power for the Head Amplifier is sourced via the FE-859-TA. A serial rack controller, the FE-705-SB, will control up to 16 of these amplifiers.

System power requirement is 207-253V AC or alternative 103-127V a.c. 50/60Hz. 11-14V DC power may be utilised by fitment of an FE-605-DCC converter.

Connector view of FE-851-RA System showing 16 off FE-859-HA In-Rack Head Amplifiers.

Panelview of FE-851-RA System showing 16 off FE-859-TA Transducer Amplifiers.

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FE-859-HA(L) Head Amplifier

Description

The FE-859-HA(L) is a plug in modular head amplifier designed to precede the FE-859-TA Transducer Amplifier in applications requiring Single Ended and Differential Charge transducer interfacing and also ICP capability.

The amplifier comprises a 5HP wide panel and a pcb card with a multipurpose front panel input connector. FE-859-TA primary function connections including bridge supply, referencing and direct input are linked through the head amplifier to appear on the input connector.

The amplifier also carries the completion resistors for 1/2 bridge and 1/4 bridge. The internal 1/2 bridge utilises a matched 1kΩ resistor pair. Note that turret fixtures enable the 1/4 bridge completion to be changed as required, for example to 120Ω or 350Ω.

Specification

INPUT	connector	15W HDD.
Differential Charge	sensitivity	1mV/pC ±1% (0.1mV/pC for HAL).
	level max	10,000 pC pk.
	protection	±30V protection.
	frequency response	1Hz to >20kHz -3dB (HA).
	noise	<40μV pk rto (Note 1). Equivalent to 0.0007g pk for 100pC/g transducer (HA).
Single Ended Charge	sensitivity	0.5mV/pC ±1% (0.05mV/pC for HAL).
	level max	20,000 pC pk.
	protection	±30v protection
	frequency response	1Hz to >20kHz -3dB (HA)
	noise	<20μV pk rto (Note 1). Equivalent to 0.007g pk for 10pC/g transducer (HA).
ICP	sensitivity	Unity Gain
	compliance	4mA @24V standard setting. Internal deactivate jumper link.
	level max	10V pk.
	protection	±30v protection
	frequency response	FE-859-TA spec. applies.
	noise	FE-859-TA spec. applies.
BRIDGE COMPLETION	1/2 bridge	Thin film 0.05% match 2ppm/°C.
	1/4	Turret fixtures for single completion resistor.
OUTPUT	connector	Datamate 20 pin.
ENVIRONMENTAL	temperature range	0 to 40 °C
DIMENSIONS	panel (h x w)	58mm x 5HP.
	card (h x d)	45 x 65m.
PROGRAMMING	Standard Programming functions for FE-859-TA apply. ICP application requires AC coupling to be selected. Charge applications require External Cal setting to be selected.	
Notes	1. Measurement bandwidth 10 kHz. 2. Measurement bandwidth 100 kHz.	